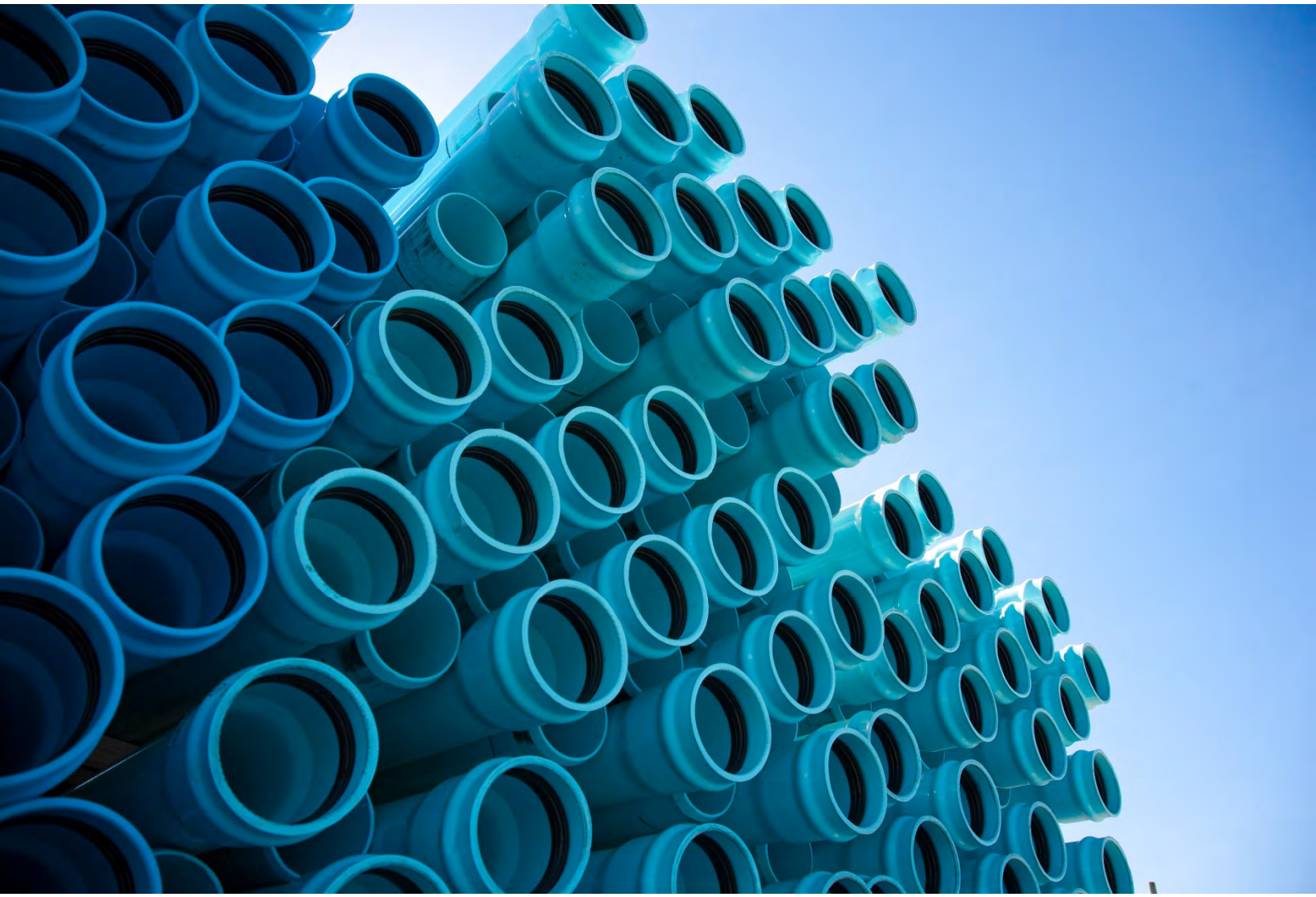
Dublin San Ramon Services District
Water, wastewater, recycled water

Dublin San Ramon Services District

Sewer System Management Plan



March 2007

(Updated November 2018)

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Attachments

List of Abbreviations

BMP	***Best Management Practices*** Refers to the procedures employed in commercial kitchens to minimize the quantity of grease that is discharged to the sanitary sewer system. Examples include scraping food scraps into a garbage can and dry wiping dishes and utensils prior to washing.
CCTV	***Closed Circuit Television*** Refers to the process and equipment that is used to internally inspect the condition of gravity sewers.
CIP	***Capital Improvement Program*** Refers to the document that identifies future capital improvements to the District's sanitary sewer system.
CIWQS	***California Integrated Water Quality System*** Refers to the State Water Resources Control Board online electronic reporting system that is used to report SSOs, certify completion of the SSMP, and provide information on the sanitary sewer system.

CMMS	***Computerized Maintenance Management System*** Refers to the computerized maintenance management system that is used by the District to plan, dispatch, and record the work on its sanitary sewer system. Infor is the propriety software the District uses for CMMS.
CWEA	***California Water Environment Association***
District	***Refers to the Dublin San Ramon Services District***
DS	***Data Submitters***
FOG	***Fats, Oils, and Grease*** Refers to fats, oils, and grease typically associated with food preparation and cooking activities that can cause blockages in the sanitary sewer system.
GWDR or WDR	***General Waste Discharge Requirements*** Refers to the State Water Resources Control Board Order No. 2006-0003, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, dated May 2, 2006.
GIS	***Geographical Information System*** Refers to the District's system that is used to capture, store, analyze, and manage geospatial data associated with the District's sanitary sewer system assets.
GRD	***Grease Removal Device*** Refers to grease traps and grease interceptors that are installed to remove FOG from the wastewater flow at food service establishments.
I&I	***Infiltration and Inflow*** Refers to water that enters the sanitary sewer system from storm water and groundwater. Infiltration enters through defects in the sanitary sewer system after flowing through the soil. Inflow enters the sanitary sewer without flowing through the soil. Typical points of inflow are holes in manhole lids and direct connections to the sanitary sewer (e.g. storm drains, area drains, and roof leaders).
Lateral	***See Private Sewer Lateral***
LRO	***Legally Responsible Official*** Refers to person(s) formally designated by an agency to be responsible for formal reporting and certifying of all reports submitted to the CIWQS.
Mainline Sewer	Refers to District wastewater collection system piping that is not a private lateral connection to a user.

MRP	***Monitoring and Reporting Program*** State Water Resources Control Board Executive Order WQ 2013-0058-EXEC effective September 9, 2013.
NPDES	***National Pollution Discharge Elimination System Permit***

INTRODUCTION

Background

The Sewer System Management Plan (SSMP) was initially prepared in compliance with requirements of the San Francisco Bay Regional Water Quality Control Board (RWQCB) pursuant to Section 13267 of the California Water Code, as described in the letter from the RWQCB to the District dated July 7, 2005. The RWQCB letter mandated that Dublin San Ramon Services District (DSRSD, District) prepare an SSMP following the guidelines in the SSMP Development Guide prepared by the RWQCB in cooperation with the Bay Area Clean Water Agencies (BACWA). At that time, the District also complied with RWQCB sanitary sewer overflow (SSO) electronic reporting requirements issued in November 2004.

Subsequently, the State Water Resources Control Board (SWRCB) acted at its meeting on May 2, 2006 to require all public wastewater collection system agencies in California with greater than one mile of sewers to be regulated under General Waste Discharge Requirements (GWDR). The SWRCB action also mandated the development of an SSMP and the reporting of SSOs using an electronic reporting system. The SWRCB SSMP requirements are similar to those promulgated by the RWQCB but differ in organization and some details.

The District's initial SSMP was prepared to meet the requirements of both the RWQCB and the Statewide GWDR and was approved and adopted by the District's Board of Directors by resolution on September 18, 2007. Section D.14 of the GWDR requires the SSMP to be updated every five years and must include any significant program changes. The program elements included herein document the District's current plan to manage, operate, and maintain its sanitary sewer system. The first SSMP update was approved and adopted by the District's Board of Directors on September 18, 2012.

This SSMP is intended to update the District's existing SSMP, in continued compliance with the GWDR. The structure (section numbering and nomenclature) of this SSMP follows the above referenced GWDR and associated Monitoring and Reporting Program (MRP) requirements. This SSMP is organized by the SWRCB outline of elements; and contains language taken from the GWDR at the beginning of each element. The GWDR uses the term "Enrollee" to mean each individual municipal wastewater agency that has completed and submitted the required application for coverage under the WDR (in this case, the Enrollee is the District). The District's waste discharger identification number in the California Integrated Water Quality System (CIWQS) is 2SSO10128.

Organization of Plan

The organization of this document is consistent with the RWQCB guidelines, but the contents address both the RWQCB and SWRCB requirements. The SSMP includes eleven elements, as follows:

1. Element 1 – District Goals
2. Element 2 – Organization
3. Element 3 – Legal Authority
4. Element 4 – Operations and Maintenance Program
5. Element 5 – Design and Performance Provisions
6. Element 6 – Overflow Emergency Response Plan (OERP)
7. Element 7 - Fats, Oils and Grease (FOG) Control Program
8. Element 8 – System Evaluation and Capacity Assurance Plan
9. Element 9 – Monitoring, Measurement, and Program Modifications
10. Element 10 – SSMP Program Audits
11. Element 11 – Communication Plan

Sanitary Sewer System Facilities

The District's wastewater service area includes the City of Dublin in Alameda County and the southern portion of the City of San Ramon in Contra Costa County (the northern portion of San Ramon and Dougherty Valley are located in the Central Contra Costa Sanitary District wastewater service area.). In addition to these areas, the service area includes Parks Reserve Forces Training Area (Parks RFTA, or Camp Parks). The flow from the wastewater service area is conveyed to the DSRSD Wastewater Treatment Plant (WWTP), which is located in the City of Pleasanton. Pleasanton owns, operates, and maintains a separate sanitary sewer system that delivers wastewater to the District's WWTP. The District's SSMP does not address Pleasanton's sewer system or its compliance with the RWQCB or SWRCB GWDR requirements. Wastewater effluent is discharged to the Livermore Amador Valley Water Management Agency (LAVWMA) effluent disposal facilities for conveyance and discharge to San Francisco Bay.

The existing wastewater service area encompasses approximately 13,340 acres, or 20.85 square miles. It should be noted that the District's wastewater service area is different than both the wastewater treatment service area and the water service area.

The District's wastewater infrastructure includes the wastewater collection system and the WWTP. The collection system conveys wastewater primarily by gravity to the WWTP, which is located south of the District's wastewater service area on Johnson Drive, in the City of Pleasanton. Generally, wastewater flows by gravity from the northwest to the south and from the east to the west and then to the south within the wastewater service area. The collection system consists of approximately 207 miles of gravity mains, 26 feet of force main, 2 siphons, 29 gravity creek crossings, one permanent lift station, and one temporary lift station. An overview of the District's collection system is shown on **Figure 1** at the end of this section. The gravity mains, force mains, and lift stations that comprise the collection system are described in more detail in the following sections.

Gravity Mains

Table 1 and **Table 2** provide the composition of the sewer piping by size and material of construction.

Table 1. DSRSD Existing Gravity Sewer Mains by Diameter

Diameter, inches	Length, feet	Length, miles	Percentage of System, %
4	194	0.04	0.02
6	24,843	4.71	2.27
8	878,289	166.34	80.21
10	73,061	13.84	6.67
12	39,578	7.50	3.61
15	19,714	3.73	1.80
18	7,671	1.45	0.70
21	1,878	0.36	0.17
24	12,931	2.45	1.18
27	4,739	0.90	0.43
30	3,759	0.71	0.34
33	2,053	0.39	0.19
36	17,542	3.32	1.60
39	3,565	0.68	0.33
42	4,801	0.91	0.44
48	306	0.06	0.03
Total	**1,094,924**	**207.37**	**100%**

Source: District Geographical Information system (GIS) updated in September 2017.

Table 2. DSRSD Existing Gravity Sewer Mains by Pipeline Material

Material	Length, feet	Length, miles	Percentage of System, %
Polyvinyl Chloride (PVC)	537,635	101.82	49.10
Vitrified Clay Pipe (VCP)	505,897	95.81	46.20
Reinforced Concrete	28,785	5.45	2.63
Acrylonitrile Butadiene Styrene (ABS)	10,497	1.99	0.96
Asbestos Cement (AC)	5,118	0.97	0.47
Ductile Iron Pipe (DIP)	3,780	0.72	0.35
Concrete	1,144	0.21	0.10
Reinforced Concrete Lined with Polyvinyl Chloride	764	0.14	0.07
Alloy Stainless Steel	737	0.14	0.07
Cast Iron Pipe	420	0.08	0.04
Steel	147	0.03	0.01
Total	**1,094,924**	**207.37**	**100%**

Source: District Geographical Information system (GIS) updated in September 2017.

Lift Stations

The District's collection system has one permanent lift station located in Dublin Boulevard. The Dublin Boulevard Lift Station raises the elevation of the tributary wastewater flow by approximately 17 feet so it can continue to flow by gravity to the DSRSD WWTP. The station has two submersible pumps in a 6-foot diameter wet well located under the sidewalk. The current lift station has a rated firm capacity of approximately 300 gallons per minute (gpm).

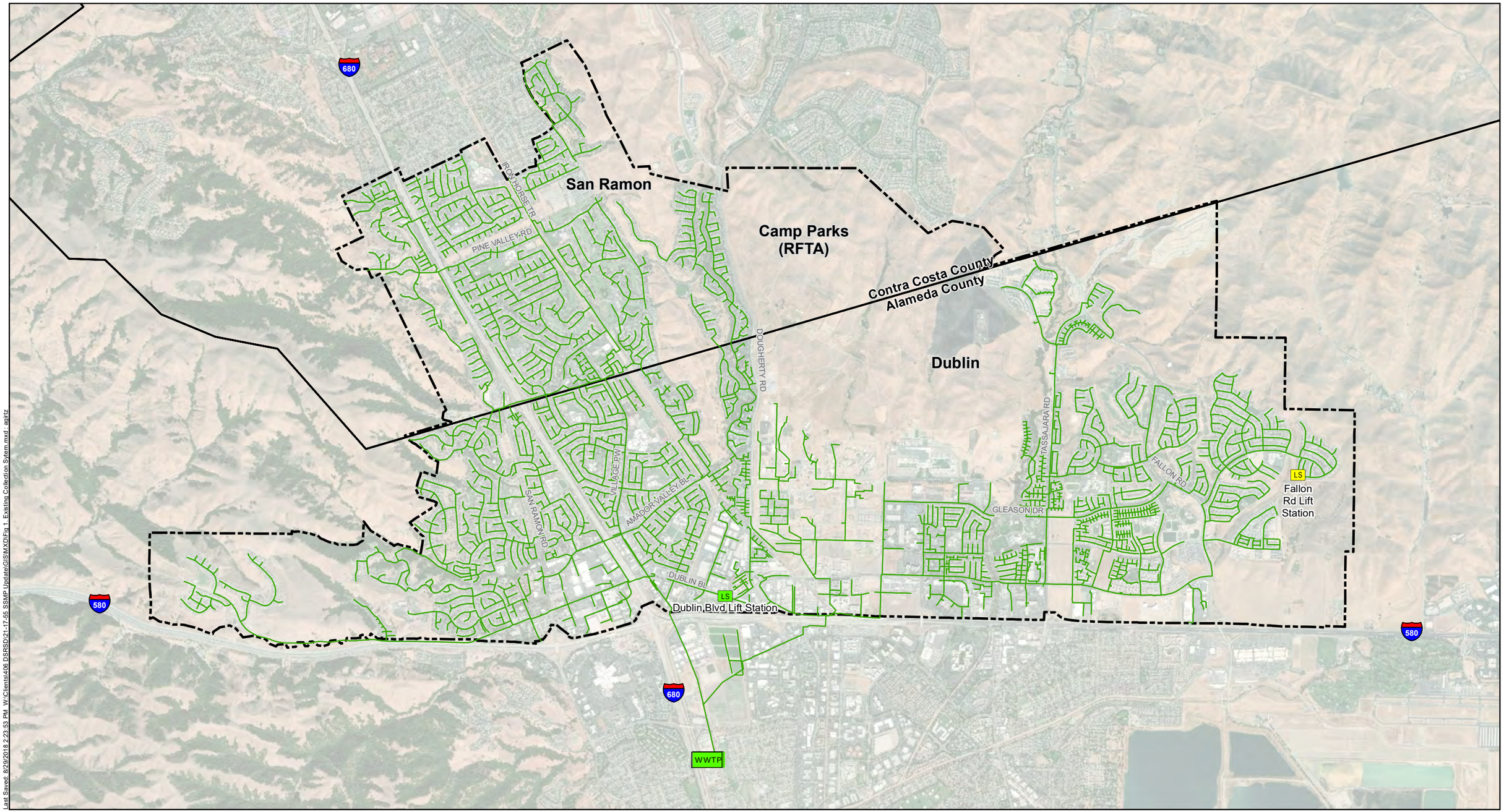
In addition to the Dublin Boulevard Lift Station, the District owns and operates one temporary lift station that is identified as both the Fallon Road Lift Station and the Eastern Dublin Lift Station. The Fallon Road Lift Station, located at the northeast corner of Terracina Drive and Croak Road, serves a newly developed tributary area that cannot be served by gravity using the existing collection system. As development in the area continues, gravity mains will be installed that serve this tributary area, and the Fallon Road Lift Station will no longer be required. The existing capacity of each lift station is provided in **Table 3**.

Table 3. DSRSD Lift Station Details

Lift Station	Pump Number	Pump Capacity, gpm	Design Head, ft	Firm Capacity, gpm
Dublin Blvd Lift Station, LS1	1 2	300 300	24	300
Fallon Road Lift Station, LS2 (Eastern Dublin Lift Station)	1 2	80 80	55	80

Force Mains

The existing collection system includes approximately 26 feet of 6-inch force main. This force main discharges wastewater from the Dublin Boulevard Lift Station into the 10-inch gravity main in Dublin Boulevard.



Last Saved: 8/29/2018 2:23:53 PM W:\Clients\406 DSRSD\21-17-55 SSMP Update\GIS\MXD\Fig 1. Existing Collection System.mxd : sgritz

Symbology

- WWTP — WWTP
- LS — Permanent Lift Station
- LS — Temporary Lift Station
- Gravity Main
- Wastewater Service Boundary

N

0 1,600 3,200

Scale in Feet

WEST YOST ASSOCIATES

Figure 1

Existing Collection System

Dublin San Ramon Services District
2018 Sewer System Management Plan (SSMP) Update

ELEMENT 1. GOALS

State Resources Water Control Board (SWRCB) Waste Discharge Requirement:

The goal of the Sewer System Management Plan (SSMP) is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system. This will help reduce and prevent Sanitary Sewer Overflows (SSOs), as well as mitigate any SSOs that do occur.

1.1 Introduction

The purpose of this section is to identify the goals that the District has set for its SSMP. These goals are intended to provide focus for District staff to continue high-quality work and to implement improvements in the management of the District's wastewater collection system.

1.2 SSMP Goals

The goals of the DSRSD SSMP are as follows:

1. Properly manage, operate, and maintain all portions of the District's wastewater collection system to ensure uninterrupted service to its customers.
2. Provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system to help reduce and prevent SSOs, as well as mitigate any SSOs that do occur.
3. Provide adequate capacity to convey peak wastewater flows to the District's WWTP. Adequate capacity, for the purposes of this SSMP, is defined as the capacity to convey the peak wastewater flows that are associated with a design storm event, as defined in the District's 2018 Wastewater Collection System Master Plan Update.
4. Be proactive in maintenance, inspection, rehabilitation, and replacement of wastewater collection system facilities to maintain their long-term structural integrity and reliability, thereby minimizing SSOs and replacement costs.
5. Investigate the causes of and minimize the frequency of SSOs.
6. Respond to customer notifications of backups or SSOs promptly and courteously.
7. Mitigate the impacts associated with SSOs.
8. Meet all applicable regulatory notification and reporting requirements.
9. Maintain the SSMP as a living document, which will serve as an up-to-date, comprehensive reference for the District's sewer system management practices.

ELEMENT 2. ORGANIZATION

SWRCB Waste Discharge Requirement:

The SSMP must identify:

a. The name of the responsible or authorized representative as described in Section J of the SSMP WDR.

b. The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. The SSMP must identify lines of authority through an organization chart or similar document with a narrative explanation; and

c. The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, Regional Water Board, and/or State Office of Emergency Services (OES)).

2.1 Background

DSRSD was established in 1953 as a special community services district. The District provides water and wastewater services to the City of Dublin, water services to the Dougherty Valley area of San Ramon, and wastewater services to portions of southern San Ramon. The District is governed by a five-member Board of Directors elected at large. Directors serve four-year terms. The District Board meets on the first and third Tuesdays of each month, with special meetings called as necessary. Daily management is carried out by the General Manager, who oversees the District's staff and reports directly to the Board of Directors.

2.2 Organization Chart

The organization chart for the management, operation, and maintenance of the District's wastewater collection system is shown in **Figure 2**. The organization chart is updated frequently and the latest version should be reviewed on the District's website at http://www.dsrsd.com/careers/organizational-chart.

2.2.1 Authorized Representative

The District's staff with a role in implementation of the SSMP are identified in **Table 2.1** along with their roles and responsibilities as they relate to the collection system operations. Additionally, District staff responsible for the reporting and certification of spill reports through the California Integrated Water Quality System (CIWQS) are identified as either a Legally Responsible Official (LRO) or Data Submitter (DS), as appropriate. Staff designated as either ran LRO or DS are responsible for the reporting of SSOs to the SWRCB. The LRO is responsible for certifying these reports.

Figure 2: Organization Chart

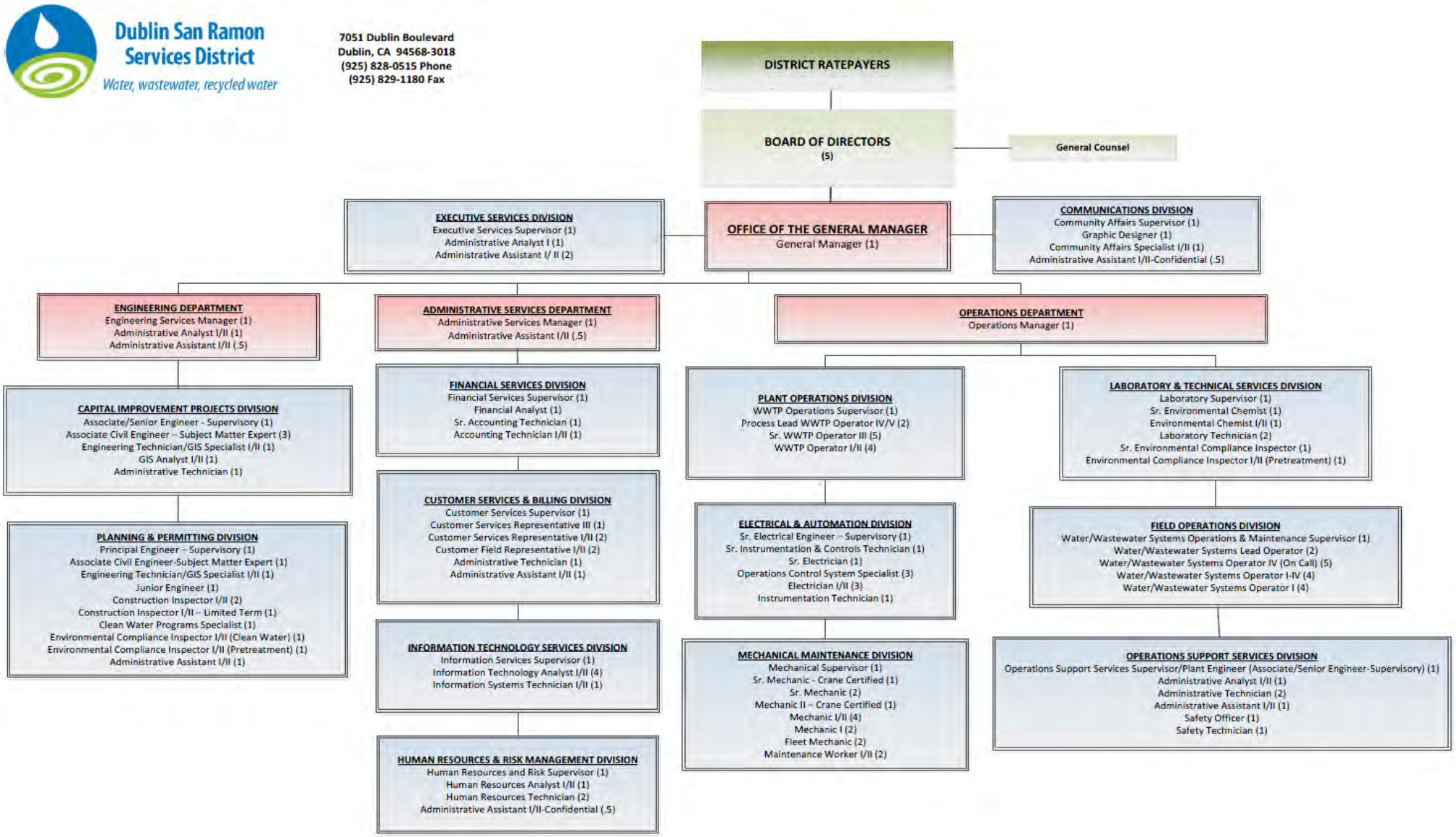


Table 2.1. Roles and Responsibilities Defined

Positions	Roles and Responsibilities
Board of Directors	Establishes policy for the management of the District facilities.
General Manager	The District's authorized representative in all wastewater collection system matters. The District's authorized representative in all wastewater collection system matters. Plans, coordinates and directs, through subordinate department heads, the operations, engineering and construction programs, and the financial affairs of the District; carries out the policies of the Board and observes and enforces all laws, rules, and regulations governing the affairs of the District.
Engineering Services Manager	Authorized to act on the General Manager's behalf in his absence. Oversees and manages the planning, design and construction of District wastewater facilities; reviews and approves developer dedicated facilities; develops, implements and manages the Capital Improvement Program (CIP); administers the District's planning, engineering, construction management, construction inspection, environmental compliance, and drafting and surveying functions; negotiates developer agreements; procures and manages consultants; performs a variety of difficult professional engineering and design activities including overseeing capital improvement projects; operates and controls operating and project budgets; manages industrial waste permitting and enforcement activities; and oversees all engineering efforts in support of operations.
Operations Manager	Authorized to act on the General Manager's behalf in his absence. Oversees and manages all operations of the District's wastewater systems; plans, organizes, directs, and coordinates the operation and maintenance of the wastewater treatment plant, field operations, collection system maintenance, and related activities; administers the District's laboratory, and sewage analysis programs; and participates in research and long-range planning activities pertaining to wastewater treatment and wastewater collection.
Wastewater Treatment Plant Operations Supervisor and Process Lead WWTP Operator	Organize and supervise the operation and ongoing maintenance of the wastewater treatment and pumping facilities. The General Manager has designated both the Water/Wastewater Systems Operations and Maintenance Supervisor and the WWTP Operations Supervisor as his duly authorized representatives, or Legally Responsible Official (LRO) to prepare, certify, and submit electronic spill reports to the RWQCB and SWRCB and to notify other government agencies. Both are designated as the LRO so that a backup is available if needed in an emergency.

Water/Wastewater Systems Operations and Maintenance Supervisor	Responsible for maintaining, providing training, and implementing the District's SSMP. The Field Operations Division plans, organizes and supervises various field operations of the District, and performs complex operations and maintenance duties related to wastewater collection. The General Manager has designated both the Water/Wastewater Systems Operations and Maintenance Supervisor and the WWTP Operations Supervisor as his duly authorized representatives, or Legally Responsible Official (LRO) to prepare, certify, and submit electronic spill reports to the RWQCB and SWRCB and to notify other government agencies. Both are designated as the LRO so that a backup is available if needed in an emergency.
Field Operations Staff: Water/Wastewater Systems Operators	Supports Field Operations & Maintenance Supervisor. Performs a broad range of duties associated with the operation, maintenance and repair of major water, wastewater and recycled water facilities. The Water/Wastewater Systems Operator is a multi-skilled position, required to perform a variety of tasks including, but not limited to, treatment and process calibration, maintenance, quality control, safety, automation, team and business skills, and problem solving.

2.2.2 Responsibility for SSMP Implementation

District staff responsible for developing, implementing, and maintaining specific elements of the SSMP are identified by job title in **Table 2.2**. The names, positions, and contact information for each of the District employees responsible for implementing specific measures of this SSMP are included in **Attachment A.**

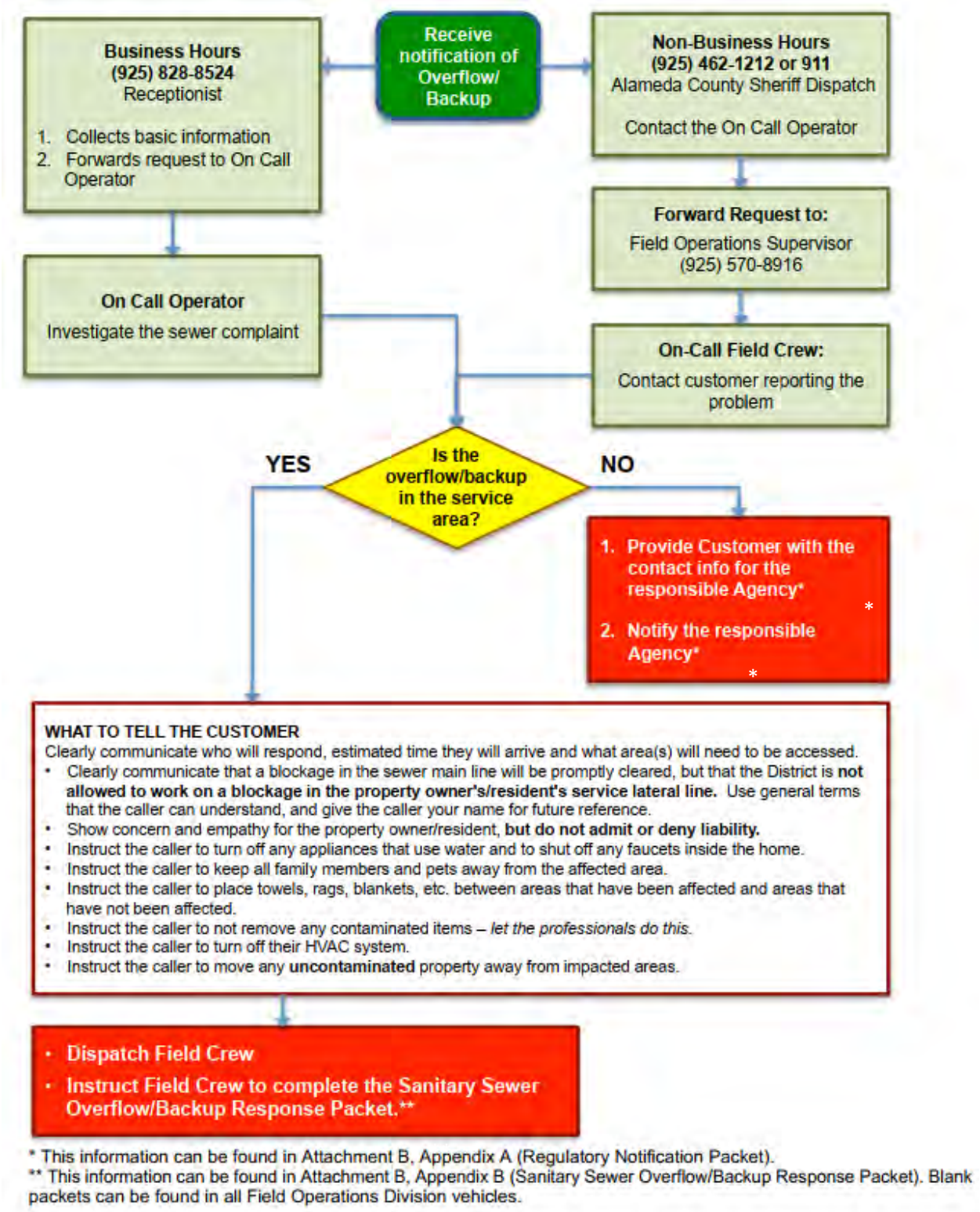
2.2.3 SSO Reporting Chain of Communication

SSO detection, notification, response, and reporting processes are described in Section 6 and further detailed in **Attachment B** – Overflow Emergency Response Plan and the District's Procedures for Reporting Spills. The SSO reporting chain of communications is shown in **Figure 3** below. All of the District's Senior WWTP Operators are authorized to submit the initial SSO report to California Integrated Water Quality System (CIWQS). The certified report is submitted only by one of the District's LRO's, the Wastewater Operations Supervisor and the Operations Manager.

Table 2.2. SSMP Responsibilities

Element No.	Element Name	Responsible District Official
-	Introduction	Operations Manager
1	Goals	General Manager, supported by Operations Manager and Engineering Services Manager
2	Organization	General Manager, Operations Manager
3	Legal Authority	General Manager
4	Operations and Maintenance Program	Engineering Services Manager
5	Design and Performance Provisions	Operations Manager
6	Overflow Emergency Response Plan (OERP)	Water/Wastewater Systems Operations and Maintenance Supervisor
7	FOG Control Program	Engineering Services Manager
8	System Evaluation and Capacity Assurance Plan	Water/Wastewater Systems Operations and Maintenance Supervisor
9	Monitoring, Measurement and Program Modifications	Field Operations & Maintenance Supervisor, Sr. Civil Engineer - Environmental Compliance
10	Program Audits	Operations Manager
11	Communications Program	General Manager
Attachment A	Contact Information for Responsible Officials in SSMP Content Development	Operations Manager
Attachment B	Overflow Emergency Response Plan (OERP); District Procedures for Reporting Spills; Dublin Lift Station Emergency Information	Operations Manager Water/Wastewater Systems Operations and Maintenance Supervisor
Attachment C	Tri-Valley Intergovernmental Reciprocal Services Agreement	General Manager
Attachment D	Sewer System Major Equipment Inventory, Critical Sewer Replacement Parts Inventory, Contact Information for Vendors and Contractors	Operations Manager
Attachment E	Contractor Outreach Flyer	Engineering Services Manager
Attachment F	Standard Procedures, Specifications and Drawings for Wastewater Utilities	Engineering Services Manager
Attachment G	FOG Public Outreach Materials	Sr. Civil Engineer - Environmental Compliance
Attachment H	Wastewater Collection System Master Plan Report	Engineering Services Manager
Attachment I	Sewer System Management Plan Audit Guidance Documents and Reports	Operations Manager
Attachment J	Sewer System Management Plan Change Log	Operations Manager
Attachment K	Sewer System Management Plan Board Adoption Documents	General Manager

Figure 3: SSO Reporting Chain of Communication



* This information can be found in Attachment B, Appendix A (Regulatory Notification Packet).
** This information can be found in Attachment B, Appendix B (Sanitary Sewer Overflow/Backup Response Packet). Blank packets can be found in all Field Operations Division vehicles.

ELEMENT 3. LEGAL AUTHORITY

SWRCB Waste Discharge Requirement:

Each Enrollee must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

a. Prevent illicit discharges into its sanitary sewer system (examples may include infiltration and inflow (I/I), stormwater, chemical dumping, unauthorized debris and cut roots, etc.);

b. Require that sewers and connections be properly designed and constructed;

c. Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency;

d. Limit the discharge of FOG and other debris that may cause blockages; and

e. Enforce any violation of its sewer ordinances.

3.1 District Code

District Code contains legal authority for the SSMP required by the RWQCB and the SWRCB. Title 3 of the District Code is dedicated to application for water and wastewater services. Title 5 of the District Code is dedicated to wastewater service delivery. The code is posted on the District's website at: http://www.dsrsd.com/about-us/district-code

The following subparagraphs of Chapters 3.20, 5.10, 5.20 and 5.30 are discussed in more detail below, as they pertain to proper design and construction of sewer and connections, maintenance access, prevention of illicit discharges, and enforcement measures:

- 3.20 Basis of Service. Provides requirements for connection to and use of sanitary sewer facilities installed, altered, or repaired within the District's service area
- 5.10 Wastewater Facilities Use Regulation and Protective Measures. Includes provisions to protect the District's wastewater facilities, prevent and control pollution, and to protect human health
- 5.20 Wastewater Discharge and Pretreatment Regulations. Includes requirements to prevent discharge of pollutants into the District's wastewater facilities, enables the District to comply with all applicable State and Federal regulations, including the Clean Water Act and the General Pretreatment Regulations, and provides enforcement measures.
- 5.30 Rates and Charges. Includes policies and provisions pertaining to fees, including service charges, billing and collection, and calculation of capacity reserve fees.

Table 3.1 presents the legal authority reference in DSRSD and California government codes for compliance with the SWRCB Waste Discharge Requirements.

Table 3.1. Legal Authority

Requirement	DSRSD Code
Prevent illicit discharges into its sanitary sewer system	• Chapter 5.20 Section 040 • Chapter 5.20 Section 140 • Chapter 5.20 Section 180 • Chapter 5.20 Section 210 • Chapter 5.20 Sections 300 through 370
Require that sewers and connections be properly designed and constructed	• Chapter 3.20 Section 020 • Chapter 3.30 Section 010 • Chapter 3.50 Section 010 • Chapter 3.50 Section 060
Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency	DSRSD does not own or maintain service laterals as specified in Section 5.10.080A
Limit the discharge of FOG and other debris that may cause blockages	• Chapter 5.20 Section 040 • Chapter 5.20 Section 140
Enforce any violation of its sewer ordinances	• Chapter 5.20 Sections 460 through 620 • Government Code Sections 54740 and 54740.5

3.2 Agreements with Other Agencies

The SSMP requirements for legal authority are fulfilled by the District Code. The District has additional legal agreements with other agencies, which are described in this section for reference. These include agreements with Camp Parks and with the County of Alameda.

3.2.1 Camp Parks Agreement

The District entered into an agreement (DSRSD Board of Directors Resolution No. 41-99) with the US Army Camp Parks RFTA on July 7, 1999 to grant DSRSD the ownership and operational responsibilities of the Camp Parks wastewater collection system. The agreement grants DSRSD the authority for operation, replacement, repair, and maintenance of the system.

3.2.2 Alameda County Agreement

The District entered into an agreement with the County of Alameda and the Alameda County Surplus Property Authority on December 20, 1994. This agreement defines the capacity rights for wastewater collection, wastewater treatment, wastewater disposal, and no net demand wastewater disposal[1]. The agreement retains county wastewater facilities that have not been integrated by DSRSD as County property; these facilities cannot be used for wastewater collection. The agreement also sets the wastewater treatment parameters and disposal capacity for the Santa Rita Jail.

3.2.3 Interagency Agreements

The District participates in the Tri-Valley Intergovernmental Reciprocal Services Agreement, a cost recovery/sharing agreement with local agencies. This agreement is included as **Attachment C**.

[1] No Net Demand Wastewater Disposal Service.

(a) General. The County hereby agrees that, at either the County's or District's initial expense as provided herein, the District shall provide Recycled Water Facilities and Capacity as described in accordance with its Major Infrastructure Policy for the purpose of landscape irrigation and/or other beneficial uses on the County's Properties in such minimum amount (measured in mgd flow) as to offset, on an annual basis, the aforesaid excess demand upon the flow parameter of Wastewater Disposal Capacity from the Santa Rita correctional Facility described in Paragraph 10 of the Area wide Facility. Agreement between Dublin San Ramon Services District and County of Alameda and Alameda County Surplus Property Authority for Water, Wastewater and Recycled Water Service.

ELEMENT 4. OPERATIONS AND MAINTENANCE PROGRAM

SWRCB Waste Discharge Requirement:

The Sewer System Management Plan (SSMP) must include those elements listed below that are appropriate and applicable to the Enrollee's system:

a. Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities;

b. Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventive Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders;

c. Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;

d. Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and provide equipment and replacement part inventories, including identification of critical replacement parts.

4.1 Introduction

The Field Operations Division is responsible for the operation, maintenance, inspection, and repair of the wastewater collection system within the District's service area. The Field Operations Division, led by the Field Operations Supervisor, plans, organizes, and supervises various field operations and performs complex operations and maintenance duties related to wastewater collection.

Currently, five (5) Field Operations staff members are assigned to maintain the water and sewer systems. Employees are cross-trained on both systems and rotate on an approximate six-month schedule between water systems (e.g. exercising valves) and sewer system (cleaning and CCTV inspection).

4.2 Collection System Mapping

DSRSD currently uses a Geographic Information System (GIS) to create and maintain maps of its collection system facilities. The geo-database includes pipe and manhole inventory information, including length, size, material, rim and invert elevations, year of construction, surface cover, address and other notes. All of this information is available for mapping. The District has both basin maps (used to schedule maintenance activities) and grid maps. Field operators access GIS mapping in the field via portable electronic tablets. The field tablets access the District GIS via Wi-Fi and cellular telephone. Mapping is accessed via Explorer for ArcGIS and Collector for ArcGIS. Both are available in Android and iOS formats. Field observations to correct GIS data are made in the field and logged on the tablets using Informap. A designated DSRSD staff member updates GIS based on the Informap notations from the field. Record sewer drawings, as well as plans for pump stations and appurtenant facilities, are available electronically to all employees.

Currently, storm drain information has been added as a GIS layer for the City of Dublin and portions of San Ramon and Pleasanton. The District is working with the cities of San Ramon and Pleasanton to obtain remaining GIS storm drain information.

4.3 Prioritized Preventative Maintenance

The District employs different methods of routine preventive maintenance activities. Specific elements of the program are described in the sections below.

4.4 Sewer Cleaning

Cleaning via hydrocleaning and inspection via CCTV are the District's primary sewer maintenance activities.

The District utilizes a prioritized scheduling program based on asset condition, consequence of failure, pipe age, and other risk factors. Pipes with higher risk, higher flows, or close proximity to surface waters are cleaned with a greater frequency. Sewers that are newer, convey less flow, or pose less risk, are scheduled for cleaning less often. The schedule includes monthly, quarterly, biannual and annual cleaning events as shown in **Table 4.1**.

Table 4.1. Pipeline Cleaning Interval

Asset	Frequency
Trouble spots (roots, grease, sags, etc.)	Monthly
As determined	Quarterly
Siphons	Biannually
As determined	Annually

A troublespot is automatically placed on a one-month cleaning frequency if it experiences an overflow or backup. After re-evaluation, a troublespot may be re-categorized for less frequent cleaning. The current troublespot cleaning frequency map is included as **Figure 5** following this section.

The length cleaned changes each year depending on the criteria listed above and the date of last cleaning. In years when less cleaning is scheduled, operations staff will perform other maintenance tasks.

Historical sewer line cleaning results are shown in **Table 4.2** and **Table 4.3**. Blank rows are provided in historical cleaning and inspection tables as a place to record subsequent years' data.

Table 4.2. Historical Sewer Line Hydrocleaning Results[1]

Year	In-House		Contracted		Total
	Line Cleaned, feet	Line Cleaned, miles	Line Cleaned, feet	Line Cleaned, miles	Percent of System
2012	137,787	26.1	-	-	12.6%
2013	226,463	42.9	-	-	20.7%
2014	67,815	12.8	-	-	6.2%
2015	253,756	48.1	-	-	23.2%
2016	501,902	95.1	240,481	45.5	67.8%
2017	356,284	67.5	92,649	17.5	41.0%
2018					
2019					
2020					
2021					
2022					

[1] Includes Troublespot cleaning

Table 4.3. Historical Sewer Line Hydrocleaning Results – Troublespot Only

Year	Line Cleaned, feet	Line Cleaned, miles	Percent of System
2012	97,770	18.5	8.9%
2013	80,058	15.2	7.3%
2014	54,796	10.4	5.0%
2015	55,735	10.6	5.1%
2016	76,403	14.5	7.0%
2017	78,377	14.8	7.2%
2018			
2019			
2020			
2021			
2022			

4.4.1 Root Control

The District has a formal root control program. Roots are noted as trouble spots cleaned at an established frequency using mechanical methods, (chain flail or root cutter), and root foaming.

Historical root treatment results are shown in **Table 4.4**.

Table 4.4. Historical Sewer Line Cleaning Results (Root Treatment)

Year	Line Treated, feet	Line Treated, miles	Percent of System
2012	-	-	-
2013	930	0.2	0.1%
2014	32,059	6.1	2.9%
2015	-	-	-
2016	-	-	-
2017	33,312	6.3	3.0%
2018			
2019			
2020			
2021			
2022			

4.4.2 Lift Station Operation and Maintenance

District maintenance staff performs weekly inspections and biannual wet well cleaning of its two lift stations.

The permanent Dublin Boulevard Lift Station is provided flow bypass relief through an existing 10" bypass line located in the next manhole upstream from the gravity inlet pipe. In an electrical outage, a generator is brought to the site to power the pumps. If bypass pumping is required, an overland bypass can be set up to discharge to the next downstream gravity manhole, located in the middle of Dublin Boulevard. An emergency response checklist was prepared for procedures during emergency situations. The checklist and an emergency bypass diagram are included in **Attachment B**.

The temporary Fallon Road Lift Station has approximately 1-hour of wetwell storage capacity during dry weather peak flow conditions. Bypass pumping requires approximately 1,200 feet of hose.

Full site-specific emergency plans for each lift station are planned to be developed within the next two years.

4.4.3 Siphon Operation and Maintenance

The District operates two siphons and has two creek crossings that are within the open channels. The Greenbrier siphon includes a flushing mechanism to enable automatic daily cleaning during cyclical low-flow periods, and is equipped with instrumentation to allow remote monitoring. The second siphon, located on Dublin Boulevard, has higher flows and is designed to be self-flushing. The Dublin Boulevard siphon is included in the trouble spot list of lines that are hydro flushed every six months.

4.4.4 Preventative vs. Corrective Maintenance

The District also tracks whether collection system maintenance is preventative or corrective in nature. **Table 4.5** shows the number of work orders and associated hours by maintenance type. Note that maintenance effort shown here includes tasks for both mains and equipment (electrical, SCADA, pumps, etc.) and contracted preventative maintenance is not included, as hourly data was not available for contracted work.

Table 4.5. Preventative vs. Corrective Maintenance

Year	No. of Work Orders			Total Labor Hours	
	Preventative	*Corrective*	*% of WOs with Labor Hours*	*Preventative*	*Corrective*
2012	73	4	100.0%	884	6
2013	210	9	99.1%	1,954	29
2014	82	26	96.3%	767	1,066
2015	196	2	86.4%	2,188	4
2016	481	-	76.1%	5,581	-
2017	418	27	82.5%	6,197	-
Totals	**1,947**	**83**		**26,072**	**1,158**
Percent of Total Maintenance	**95.9%**	**4.1%**		**95.7%**	**4.3%**

4.4.5 Odor Control

The District has no official collection system odor control program in place. However, if odor complaints are received, District crews respond with an on-site investigation. The District typically receives relatively few odor complaints because manholes are cleaned at the same time lines are hydro flushed. All complaints are entered into the District's Eden® customer account system.

4.4.6 Corrosion Control

The District has no official collection system corrosion control program. If corrosion is deemed a problem in the future, the District may choose to add such a program to its prioritized preventive maintenance.

4.4.7 Investigation of Customer Complaints

The District places high priority on responding to customer complaints about sewer service. Complaints are generally related to sewer stoppages, overflows, or, less frequently, odors. Detailed information about communication flow and the District's response procedures are included in the District's Collection System OERP, which is discussed further in Element 6. Response is performed by the collection system staff during work hours and the standby crew during non-working hours. Response includes making a field assessment of the complaint and taking necessary actions required to resolve the problem. Increased preventive maintenance may be required to minimize recurrence of the issue.

4.4.8 Maintenance Management and Work Orders

The District's sewer system inventory is contained in the Lucity Computerized Maintenance Management System (CMMS). Manhole and pipe data in the Lucity database are also linked to the District's GIS and AutoCAD map files through use of common manhole and pipe identifiers. Attribute information stored in

the database includes basin (geographic areas used as the basis for scheduling system cleaning and inspection), sewer map manhole numbers, pipe diameters and lengths, manhole diameters, rim and invert elevations, pipe and manhole materials, manhole cover type, pipe year of construction, surface cover, address, and other notes such as if the pipe is included in the trouble-spot cleaning schedule. The Lucity CMMS includes modules for generating work orders, maintaining system inventory and inspection information, and rating sewers based on inspection results. Any deficiencies noted during hydro flushing, specific trouble-spot information, and maintenance recommendations are logged in the District's Inframap field data collection system, and then imported regularly into Lucity.

4.4.9 Private Sewer Laterals

Customer sewer laterals are owned by the private property owner. Private ownership begins at the building envelope, extending up to and including the connection to the mainline. The District owns only the mainline and mainline appurtenances, excluding the connection.

Maintenance, inspection, and repair is the responsibility of the private property owner. Failures of the private sewer lateral are also the responsibility of the private property owner. District staff will respond to a report of a private SSO but will act only to protect local storm drains from receiving waste.

4.5 Scheduled Inspections, Condition Assessment, and Rehabilitation Plan

The District conducts inspections of its sewer facilities to evaluate their condition and identify needed repairs and rehabilitation.

4.5.1 Manhole Inspection

The District inspects manholes during hydrocleaning. Any deficiencies are noted and entered into the Lucity database. Urgent repairs are completed under an on-call contractor. Non-urgent repairs are grouped and developed into CIP projects along with other rehabilitation and repair projects.

4.5.2 Pipeline Inspection

CCTV inspections of the collection system are performed on a prioritized basis in coordination with the hydro cleaning schedule as described in Section 4.4. Historical CCTV inspection results are shown in **Table 4.6**.

Table 4.6. Historical Sewer Line Inspection Results (CCTV)[2]

Year	In-House		Contracted		Total
	Line Inspected, feet	Line Inspected, miles	Line Inspected, feet	Line Inspected, miles	Percent of System
2012	20,259	3.8	-	0.0	1.9%
2013	74,970	14.2	-	0.0	6.8%
2014	1,691	0.3	27,287	5.2	2.6%
2015	102,314	19.4	14,565	2.8	10.7%
2016	115,799	21.9	234,317	44.4	32.0%
2017	117,541	22.3	98,628	18.7	19.7%
2018					
2019					
2020					
2021					
2022					

[2] In-house includes codes: CCTV Inspection - Priority; CCTV Inspections; Contracted includes codes: Contracted CCTV Inspection; Contracted CCTV Inspection with Sonar; Contracted CCTV Inspection with Sonar and Laser

In addition to inspection of existing pipelines, the District performs CCTV inspection on all new pipelines. The District's CCTV equipment records CCTV inspection information on DVDs and logs CCTV observations using Pipeline Observation System Management (POSM®) CCTV data capture software. CCTV data is also stored on two hard drives: one external drive and one drive in the computer located in the CCTV truck. The District uploads all data captured in POSM to Lucity. All available CCTV data obtained prior to implementation of the POSM system has also been uploaded to Lucity.

The POSM software contains a full set of CCTV "defect codes" based on the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment Certification Program (PACP) system, which the District utilizes for recording CCTV observations.

4.5.3 Pipeline Condition Assessment and Rehabilitation Planning

CCTV reports and video are the basis for establishing needed system repairs. Results are logged using defect codes and a numerical rating scale (weights assigned to each type of defect). The ratings reflect the relative severity of the observed defects. The rating system is used as the basis of selection of pipes for sewer rehabilitation. Specifically, needed repairs are identified for defects with severity ratings of three or higher.

Repairs costing less than $15,000 are completed by a local contractor under a District on-call service contract. For repairs estimated to cost between $15,000 and $25,000, three quotes are obtained. Larger repair projects are competitively bid. To date, sewer repair work has consisted primarily of spot repairs and pipe and manhole joint sealing. The District performed one pipe bursting, but no sewer lining projects.

Currently, the District's collection system is in very good condition, and relatively few needed repairs have been identified through previous CCTV inspections. The District has been able to fund and construct all needed repairs as they are identified.

The District has developed a system to assess the condition of each pipe and provide recommendations for prioritization of rehabilitation and replacement. Condition assessments are performed based on CCTV observations and remaining useful lives are estimated, along with replacement cost projections. he District's Finance department uses that information to forecast long-term facility replacement needs. As the CCTV work continues, more data will be added to the Lucity database, expanding the available information on which to make decisions.

4.5.4 Lift Station Inspections

District maintenance staff performs weekly inspections of its two lift stations. Weekly inspection records are located at the Field Operations Facility.

4.6 Contingency Equipment and Replacement Inventories

The District maintains a mutual aid list that provides the quantity and location of equipment that can be used during emergencies. Backup equipment includes portable pumps and generators (located at the WWTP). A spare pump for the Dublin Lift Station is stored at the field operations site (Bin #5). The District also stores specific types and sizes of pipe for minor emergency repairs at Field Operations Division. Additionally, DSRSD maintains a contract with a parts manufacturer for service 24 hours a day, 7 days a week. As a result, the District has not encountered any problems in obtaining necessary parts during an emergency. The cities of Pleasanton and Livermore operate identical hydro flushing equipment that the District can utilize in an emergency. Contract line clearing companies are also available as back-up alternatives.

DSRSD maintains a spreadsheet with information regarding District vehicles.

Attachment D provides an inventory of Major Sewer System Equipment, Critical Sewer System Replacement Parts, and Contact Information for Vendors and Contractors.

4.7 Training

DSRSD field operators are formally trained on topics such as Emergency Action Plan Training, Traffic Control, Hazardous Materials, Driver Safety, Utility Line Locating & Marking, Hearing Conservation, Industrial Ergonomics, Asbestos Concrete Pipe Cutting, Heat Illness Prevention, and other related safety procedures. All are required training topics for DSRSD field staff in accordance with the District's Injury Illness and Prevention Program. Compliance is tracked and monitored with the use of a LMS (Learning Management System) and compliance reports are regularly reviewed by Supervisors and Senior Management Personnel. All DSRSD collection systems operators must be certified by California Water Environment Association (CWEA).

Aside from formal technical seminars and conferences, on-the-job training given by experienced operators for new field operators is incorporated into daily activities. Operational training (e.g. operation of hydrocleaning equipment) occurs on the job – as needed and in tailgate sessions.

The District plans to implement formal training for its operations, maintenance, and monitoring staff covering updates to the SSMP and SSO response plan, as well as refreshers as needed.

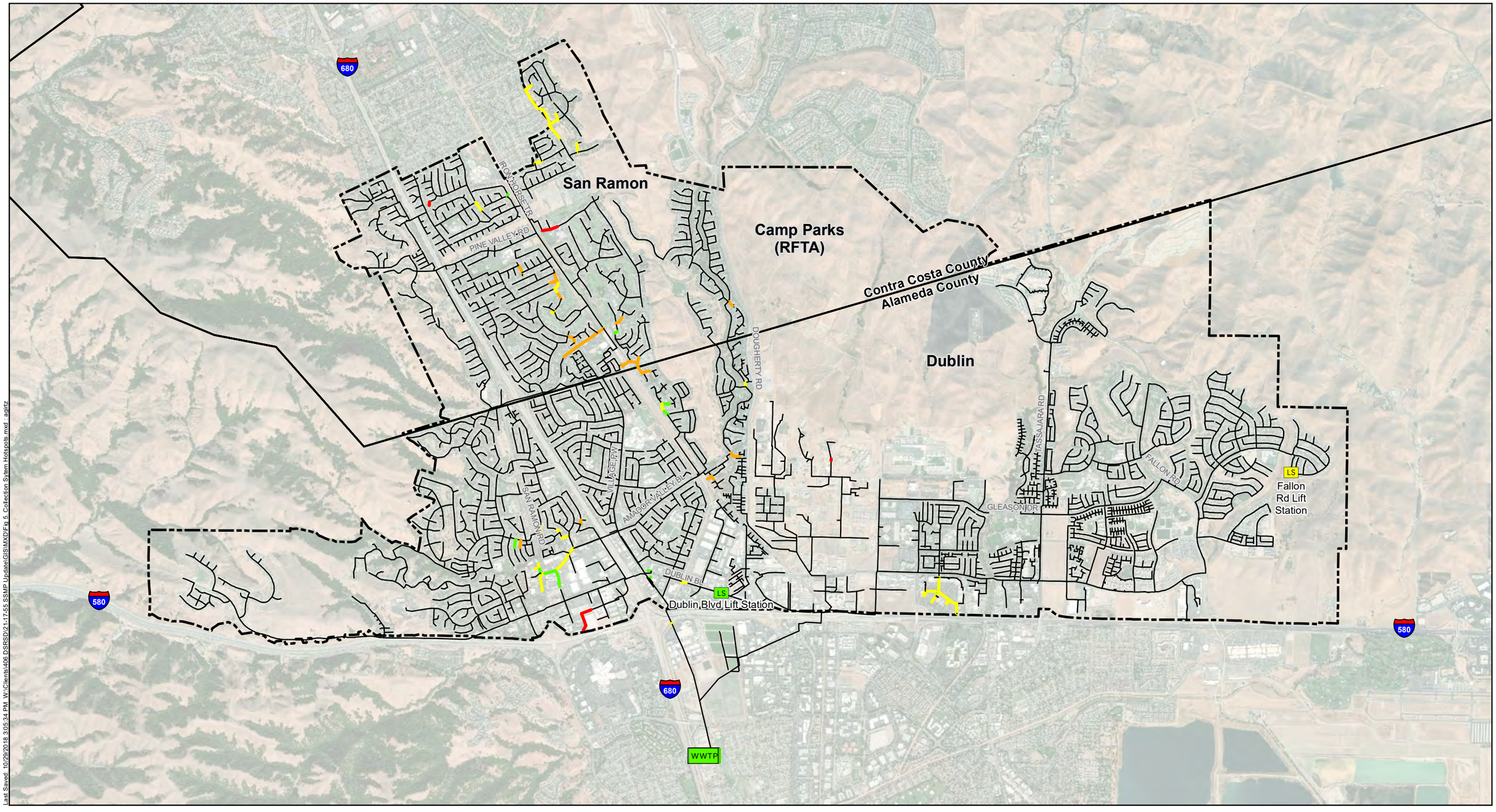
Contractors that perform District collection system maintenance tasks (CCTV or hydrocleaning) are provided project requirements and emergency repose procedures at a project kick-off and/or regular tailgate meetings.

Emergency response procedures and design standards are conveyed to construction contractors at pre-construction meetings, regular project meetings and after any contractor involved incidents.

4.8 Outreach to Local Contractors and Plumbers

The District participates in the Bay Area Clean Water Agencies (BACWA) regional outreach program. The Bay Area Pollution Prevention Group (BAPPG), a subcommittee of BACWA develops regional resources and activities to help member agencies meet regulatory outreach requirements. In collaboration with BAPPG, DSRSD has produced a plumber and sewer contractor outreach flyer on SSO prevention and sewer lateral construction standards, provided in **Attachment E**. The District will distribute these flyers from the new permit counter, which is currently under construction.

To further District outreach, field operations and environmental compliance staff frequently communicate with construction and sewer cleaning companies in the District's service area to raise their awareness of actions that can clog or damage the District's collection system, such as dumping construction debris into manholes and illegal dumping of grease or septic waste. The District also includes numerous publications and links to other information on its website.



Last Saved: 10/29/2018 3:05:34 PM W:\Clients\406 DSRSD\21-17-55 SSMP Update\GIS\MXD\Fig 5. Collection System Troublespots.mxd - agiritz

Symbology

- Gravity Mains

Troublespot Cleaning Frequency

- One Month Troublespot
- Three Month Troublespot
- Six Month Troublespot
- Twelve Month Troublespot

- WWTP WWTP
- LS Permanent Lift Station
- LS Temporary Lift Station
- Wastewater Service Boundary

N

0 1,600 3,200

Scale in Feet

WEST YOST ASSOCIATES

Figure 5

Collection System Troublespot Cleaning Frequency

Dublin San Ramon Services District
2018 Sewer System Management Plan (SSMP) Update

ELEMENT 5. DESIGN AND PERFORMANCE PROVISIONS

SWRCB Waste Discharge Requirement:

a. Design and construction standards and specifications for the installation of new sanitary sewer systems, lift stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems; and

b. Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

5.1 Design and Construction Standards

DSRSD Standard Procedures, Specifications and Drawings for Design and Installation of Potable Water, Recycled Water and Wastewater Utilities identifies design and construction standards for installation of new District collection system facilities as well as any repairs, replacements, or relocations of facilities. The standards were reviewed and updated in 2014. The Standard Procedures, Specifications and Drawings document is included as **Attachment F**.

Section 1, General Requirements, includes general design information and criteria for pipelines and general construction requirements. Section III, Sewer System Requirements, includes design criteria for sewer main sizing, locations of a main, minimum cover, horizontal and vertical curves, manholes, dead-end mains and cleanouts, side sewers, pumping stations, special design considerations, grease and sand traps, grease interceptors; and construction standards for materials used in sewer construction, installation of sewer pipe and appurtenances, connections with existing facilities and testing, cleaning and TV inspection.

Section III-A1 contains provisions for sewer sizing. This includes required methods for determining design sewage flow for single- and multi-family dwellings, as well as required methods for determining minimum and maximum velocity and minimum slope and slope changes.

Section III-A2 defines where a sewer main is to be located (i.e. in streets, above ground, easements, etc.) and Section III-A3 states that the minimum cover of all sewer mains is five feet.

Section III-A4 defines the requirements for horizontal and vertical curves of sewer mains.

Section III-A5 contains provisions for manholes including the maximum distance between manholes for sewer mains of various diameters, location of manholes, slope of manhole channels, drop manholes, manholes in undeveloped areas, rim elevations of manholes, sampling manholes, and stubs for future sewer line extensions within manholes.

Section III-A6 defines District requirements for dead-end mains and cleanouts.

Section III-A7 includes District provisions for side sewers, including size, depth and grade, location, connection angle, maximum deflection, backflow prevention, and use of existing sewer and pipe material.

Section III-A8 prohibits the use of a pumping station unless approved in the event of an extraordinary circumstance.

Section III-A9 states that special design considerations (i.e. air/vacuum relief valves, blow-offs, siphons, etc.) will be examined by the District on a case-by-case basis.

Section III-A10 states the requirements for grease and sand traps and grease interceptors. All restaurants and other establishments with common food preparation facilities must have a grease interceptor on their side sewer; it must be outside the building and easily accessible for cleaning and inspection, appropriately sized, and approved by the District Engineer.

Section III-B defines the District's collection system construction standards, including construction materials for pipe, manholes, and saddle fittings (Section III-B1). Section III-B2 defines the installation of sewer pipe and appurtenance requirements. Section III-B3 contains the District's standards for connections with existing District facilities, including existing sewers and pipes of different materials.

5.2 Testing and Inspection Standards

Section III-B4 states the District's requirements for testing, cleaning, and television inspection. All sewers, force mains and laterals must be tested prior to connection to the house sewer. All sewer testing must be performed by air testing. A water exfiltration test may be required under special circumstances. Additionally, all PVC pipe must be checked by means of a pipe deflection gauge. Upon satisfactory completion of all testing and any subsequent repairs and adjustments, the entire system of new sewers and manholes must be cleaned in accordance with Section III-B4-7. Upon completion of all inspection and sewer cleaning, all new lines must undergo CCTV inspection by the District prior to acceptance.

5.3 Standard Drawings

The District's standard detail drawings contain plans for standard manholes, drop manholes, shallow manholes, manhole frame and covers, miscellaneous manhole details, manhole pads, typical side sewers, lateral sewer connections, cleanouts, sampling manholes, grease and sand traps, grease interceptors, and sampling boxes. Standard drawings can be downloaded individually from the District website: http://www.dsrsd.com/do-business-with-us/planning-and-permitting/standard-procedures-specifications-and-drawings.

ELEMENT 6. OVERFLOW EMERGENCY RESPONSE PLAN (OERP)

SWRCB Waste Discharge Requirement:

Each Enrollee shall develop and implement an Overflow Emergency Response Plan (OERP) that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

a. Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;
b. A program to ensure an appropriate response to all overflows;
c. Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the Monitoring and Reporting Program (MRP). All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDRs or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification;
d. Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;
e. Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and
f. A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

6.1 DSRSD OERP Compliance

DSRSD has completed an Overflow Emergency Response Plan (March 2017) that is in compliance with both SWRCB and RWQCB SSMP OERP requirements. This plan will be updated annually by the Field Operations Supervisor. The full OERP document is included in **Attachment B**.

6.2 DSRSD OERP Components Overview

The DSRSD OERP contains all the required SWRCB and RWQCB components as well as additional supporting information. The DSRSD OERP is organized as follows:

1. Introduction (purpose, policy, regulatory requirements and definitions, goals)
2. SSO Detection and Notification
3. SSO Response Procedures
4. Recovery and Cleanup
5. Water Quality
6. SSOs Into/Onto Private Property
7. Notification, Reporting, Monitoring, and Recordkeeping Requirements

8. Post-SSO Event Debriefing
9. Failure Analysis Investigation
10. SSO Response Training
11. Authority

Appendices found in Attachment B

12. Appendix A – Regulatory Notifications Packet (RN)
13. Appendix B – SSO/Backup Response Packet
14. Appendix C – Field Sampling Kit
15. Appendix D – Contractor Orientation

6.2.1 Detection and Notification Procedures

Section 6 describes ways that spills are detected and how these spills are communicated to the appropriate agencies and individuals, both during and outside of normal working hours. Additionally, flowcharts illustrating spill detection, notification and response communication processes for DSRSD are included. Refer to Element 2 (Organization) for a flow chart depicting the chain of communication and to OERP Appendix A – Regulatory Notifications Packet (RN) Procedures for Reporting Spills.

6.2.2 Response and Reporting Procedures

Section 7 describes the procedures to be followed when responding to and addressing spills, including priorities, traffic, safety, initial response, containment or bypass, and special consideration in sensitive areas.

OERP Appendix A – Regulatory Notifications Packet provides detailed response and reporting requirements for each type of SSO. Section 9 describes the reporting requirements after identification of a Category 1 SSO (≥50,000 gallons) including water quality sampling, water quality monitoring plan, and reporting to CIWQS.

6.2.3 Mitigation

Section 8 describes procedures for recovery and cleanup after flow has been restored, addressing cleanup under a variety of conditions including: hard surfaces (exterior), landscaped and unimproved natural vegetation, natural waterways, and private property (interior).

This section also addresses communications with the public during and after a spill event. Public notification is required when an SSO poses a threat to the environment or as directed by the County Environmental Health Department. Contamination warning signs shall be posted at visible locations at the direction of the Field Operations Supervisor and not removed until directed. The warning signs serve to provide a warning of potential health risks due to sewage contamination.

6.2.4 Staff and Contractor Training Procedures

Section 14 provides information on the training that is required to support the OERP and SSO response. Training includes: initial training for all District personnel who may have a role in responding to, reporting, and/or mitigating an SSO, prior to being placed in a position where they may have to respond. Annual refresher training is given for all affected employees. Training verification will be achieved through electronic testing, SSO response drills, interviews, and observations.

Contractors working on District sewer facilities will be required to develop a project-specific OERP and will provide training for all personnel on their role in the event of an SSO. OERP Appendix D includes Contractor Orientation materials.

ELEMENT 7. FATS, OILS, AND GREASE (FOG) CONTROL PROGRAM

SWRCB Waste Discharge Requirement:

Each Enrollee shall evaluate its service area to determine whether a FOG control program is needed. If an Enrollee determines that a FOG program is not needed, the Enrollee must provide justification for why it is not needed. If FOG is found to be a problem, the Enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include the following as appropriate:

a. An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;
b. A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area;
c. The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;
d. Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements;
e. Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance;
f. An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section; and
g. Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (f) above.

7.1 Nature and Extent of FOG Problems

Historically, the District's SSOs have been limited to one or two a year. Since 2012 there have been five SSOs in the District and only one has been caused by FOG problems. In the past, District has identified sewers with chronic maintenance problems and placed these sewers on a program of "trouble-spot hydro flushing at intervals of one, three, or six months". SSO sites are automatically added to the list of "trouble-spots" that are scheduled to have a preventive maintenance frequency of one, three, or six months. Trouble-spots are monitored by Staff in the field and are documented using the CMMS and GIS to coordinate inspections. Trouble-spots receive increased cleaning, inspection and records verification.

SSO's that are determined to have been caused by FOG are investigated until the source is determined and corrected. The District will continue to evaluate trouble-spots as it completes ongoing closed-circuit television (CCTV) inspections with the objective to eliminate as many as can be practically done.

The low number of FOG related SSOs is due to an effective commercial grease trap source control program (see description below) that is supported by an effective preventive maintenance program. Therefore, the District plans to continue its source control and preventive maintenance programs.

7.2 FOG Source Control Program

The District's Grease Inspection Program has the following goals:

1. Ensure that grease traps or interceptors are functioning properly
2. Service the equipment at proper time intervals
3. Check the overall integrity of the equipment
4. Comply with the WWTP pretreatment requirements

7.2.1 Preventive Maintenance

The District's FOG source control program and its preventive maintenance program are focused on problematic grease dischargers and problematic sewer line segments. Problematic sewer lines have been placed on one-, three-, and six-month cleaning schedules.

7.2.2 Legal Authority to Prevent FOG

Legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG is provided by the District Code, Chapter 5.20.040 (the District code can be accessed via the District's website, as noted in Section 3.1). Specifically, District Code provides authority for the following:

- Prohibit grease disposal by restaurants into sewer system or WWTP
- Require the installation of grease traps and interceptors
- Require maintenance and inspection of grease trap and interceptors

7.2.3 Source Control Program

The District mandates that food handling establishments use grease traps or interceptors to collect FOG to prevent it from entering the wastewater collection system and treatment equipment. The District's environmental compliance staff inspects each facility annually and collects and reviews grease interceptor maintenance records to confirm adherence to District Code.

The District's grease inspection program covers approximately 225 commercial facilities organized into twelve service areas. Some facilities have multiple grease traps or interceptors, for a total of approximately 265 grease control devices within the District service area. On average, 94 percent of all grease traps and interceptors are in compliance in any given year. In addition, field operations staff conducts issue-specific inspections when FOG-related SSOs are suspected.

7.2.4 Grease Disposal

The majority of grease haulers dispose of grease pumped from interceptors at a grease collection facility located at one or more wastewater treatment plant facilities in the area, including the East Bay Municipal Utility District (EBMUD) Wastewater Treatment Plant. Some haulers have facilities to recycle the grease to produce biodiesel. There are potential benefits to the community, the environment, and the District in receiving FOG for digestion. The District is completing the construction of a new Digester with startup planned in October 2018. The Digester includes a FOG receiving station configured to accept FOG waste from grease haulers in the service area. The District anticipates beginning to receive FOG waste in 2019.

7.2.5 Public Education

The District currently manages FOG-related problems through a District-wide grease inspection and a public education outreach program. The following is a summary of the tools used by the District to educate its customers for FOG and other items that can cause sewer system blockages.

- Website information
- Customer newsletter (also included information about diapers, wipes, roots)
- Flyers inserted into customers' bills
- Signage on District trucks
- Outreach during holiday season about proper disposal of turkey fryer oil

These programs are developed and implemented by the District's Public Information Division, which is located within the Organizational Services department. The District web site contains information about Best Management Practices (BMPs) for handling and disposing of household FOG.

A sampling of outreach materials is included in **Attachment G**.

ELEMENT 8. SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

SWRCB Waste Discharge Requirement:

The Enrollee shall prepare and implement a CIP that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event. At a minimum, the CIP must include:

a. **Evaluation**: Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events;
b. **Design Criteria**: Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria; and
c. **Capacity Enhancement Measures**: The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.

Schedule: The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a)-(c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D.14.

8.1 Capacity Assessment

The District assesses the capacity of its wastewater collection system as part of regular updates to its Wastewater Collection System Master Plan. These updates take place periodically, whenever substantial changes to the District's system warrant. The most current version (2017 Wastewater Collection System Master Plan, West Yost) is referenced here and included as **Attachment H**. The document can also be found on the District website at: https://www.dsrsd.com/about-us/library/plans-studies

The recent Master Planning efforts have included the following tasks:

Flow Monitoring: Flow monitoring was performed between March 15, 2017 and May 26, 2017 at a total of 15 flow monitoring locations and two rainfall gauging sites. Results were used to estimate peaking factors and associated RDII (rainfall-dependent inflow and infiltration) and GWI (groundwater infiltration) entering the system.

Development of Wastewater Collection System Flows: Average and peak flows under dry and wet weather conditions were developed using 2017 flow monitoring data, historical flow data from the WWTP, and a method to characterize the RDII response to a rainfall event (RTK Method). The report also examined the impact of the mid-2010s drought and demand rebound on water demand and wastewater flows.

Update of Hydraulic Model: The existing H20Map Sewer hydraulic model was updated to the InfoSewer hydraulic modeling platform. The model infrastructure was reviewed updated through comparison to the District's GIS database of the collection system. Major updates included: addition of infrastructure

constructed later than the previous Master Plan (2005); correction of discrepancies in gravity main inverts, diameters, and manhole rim elevations; and inactivation of infrastructure that was shown in the model but did not exist in GIS.

Review of Design Flow Criteria: Performance criteria from the District's Standard Procedures, Specifications and Drawings for Wastewater Utilities (District Standards) and from the 2005 Collection System Master Plan was reviewed for use in the CSMP. Key criteria include:

- Maximum allowable flow, in the form of q/Q ratio: maximum flow in the pipe under design conditions (q) to the full pipe capacity (Q). At various times in the past, the District has used both d/D ratios and q/Q ratios to express the maximum allowable flow in gravity mains. It was decided to use a q/Q ratio for this CSMP.
- Design velocities and minimum slopes
- Forcemain velocities

Capacity Analysis: The capacity of the District's collection system was evaluated based on performance criteria discussed above, for both existing and future condition scenarios. Gravity mains which did not meet performance criteria were identified along with the deficiency classification (major deficiency, minor deficiency, or zero/negative slope), the magnitude of the capacity deficiency, and the upstream and downstream invert elevation source. Forcemains were assessed for design flow, firm capacity, and peak velocity.

Long-term Management Strategy: This section evaluated the collection system from a long-term perspective including both capacity and condition of the collection system assets. Policy issues related to private sewer laterals were reviewed, including a review of lateral policy and practice options, and lateral program funding options. A basin-level I&I analysis was performed to identify candidates for high-value long-term management strategies and to better understand the cause of the hydraulic deficiencies. I&I reduction projects were presented as an alternative to upsizing for capacity-related deficiencies.

Prioritized CIP: Deficient infrastructure identified in the capacity analysis were used to develop a recommended Capital Improvement Program (CIP). CIP projects were prioritized based on the development timeline that drives the need for the project as well as the risk posed by the deficiency being corrected or each project. Conceptual costs for each project were developed, along with sources of funding.

8.1.1 System Evaluation and Capacity Assurance Plan

The District's long-term CIP is developed as part of a 10-year plan, the most recent being the 2018-2027 Ten Year Plan. Within the Ten-Year Plan, two-year budgets are set based on near-term project requirements. The District's current CIP is available on the District's website: http://www.dsrsd.com/about-us/library/financial-information. The CIP includes a proposed schedule for implementing the recommended sewer improvement projects, budget-level cost estimates for each project, and sources of funding (expansion or replacement funds).

The 2018 Master Plan Update identified five sewer relief projects needed to address potential capacity deficiencies. This included three "near term" projects and two future flow projects. Near term projects will be integrated into the 2020-2021 Two Year Budget. Future flow projects will be incorporated as indicated by development timing.

ELEMENT 9. MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS

SWRCB Waste Discharge Requirement:

The Enrollee shall:

a. Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities;
b. Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;
c. Assess the success of the preventative maintenance program;
d. Update program elements, as appropriate, based on monitoring or performance evaluations; and
e. Identify and illustrate SSO trends, including: frequency, location, and volume.

9.1 Monitoring, Measurement, and Program Modifications

9.1.1 Maintaining and Tracking Information

SSO RECORDS

The District maintains SSO, spill, and records of SSO events in the form of an internal investigation and Regulatory Incident Report. Hardcopies are filed in the WWTP Operations Manager's office, with any other reports related to the event. The District uses the State's CIWQS electronic SSO reporting system, which records the number, volume, locations, and causes of SSOs. All complaints received by the District are entered into the District's Eden system.

PIPE INSPECTION AND CLEANING RECORDS

Important information on the District's collection system, including pipe history, trouble-spot, cleaning schedule, etc., is contained in the Lucity Computerized Maintenance Management System (CMMS) as previously discussed in Section 4.4.8. The Lucity CMMS includes modules for generating work orders, maintaining system inventory and inspection information, and rating sewers based on inspection results. Additionally, the District conducts inspections of its sewer facilities to evaluate their condition and identify needed repairs and rehabilitation.

SSMP AUDITS

The District has conducted periodic audits of the SSMP to monitor the effectiveness of the program for its operation, maintenance, or management activities. DSRSD maintains records on sewer condition, repairs, frequency of cleaning and inspection, number, size and nature of SSOs, etc., in its Lucity system that is described below.

9.1.2 Measuring Effectiveness of SSMP Elements

The District will update elements of this plan and its monitoring program in the future as necessary, if significant changes occur in the District's infrastructure, service area demands, or organizational structure, as appropriate.

With the information available in the CMMS and the SSO reporting system, the District is able to measure the effectiveness of the SSMP and maintenance program by tracking various parameters related to service calls, maintenance and inspection activities, as well as by comparing SSO trends from previous years and identifying system components that may contribute to system failures. Current metrics include:

- Number and Volume of SSOs per year
- Length gravity sewers cleaned per year
- Length of gravity sewers inspected with CCTV per year

The District is planning to advance these metrics and develop key performance indicators (KPIs) which align with the AWWA Utility Benchmarking framework and performance management guidelines.

9.1.3 Updating SSMP Elements

The District will update elements of this plan and its monitoring program in the future as necessary, if significant changes occur in the District's infrastructure, service area demands, or organizational structure, as appropriate.

9.1.4 SSO Trends

Table 9.1 shows the number of SSOs per year by cause of failure.

Table 9.1. Historical SSOs by Failure Cause

Year	FOG	Roots	Debris	Other	Total
2008	1	-	1	-	2
2009	-	-	-	-	0
2010	1	-	-	-	1
2011	2	-	1	-	3
2012	1	-	-	1	2
2013	-	-	-	-	0
2014	-	2	1	-	3
2015	-	-	-	-	0
2016	-	-	-	-	0
2017	-	-	-	-	0

Data retrieved from CIWQS August 2018

Table 9.2 shows the volume of SSOs including total volume, portion recovered, and total volume entering surface waters.

Table 9.2. Historical SSOs Volumes

Year	Total Volume, gallons	Volume Recovered, gallons	Portion Recovered and returned to Sewers, %	Total Volume Entering Surface Waters, gallons
2008	18,450	1,050	6%	17,400
2009	-	-	-	-
2010	300	100	33%	200
2011	3,225	3,125	97%	0
2012	20,650	0	0%	20,650
2013	-	-	-	-
2014	25,495	19,620	77%	0
2015	-	-	-	-
2016	-	-	-	-
2017	-	-	-	-

Data retrieved from CIWQS August 2018

ELEMENT 10. SSMP AUDITS

SWRCB Waste Discharge Requirement:

As part of the SSMP, the Enrollee shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the Enrollee's compliance with the SSMP requirements identified in the WDR, including identification of any deficiencies in the SSMP and steps to correct them.

10.1 SSMP Audits

The District will complete semiannual audits of its SSMP covering the calendar year. The audit will be completed internally, by an appropriate third-party auditor, or possibly through a peer review process involving neighboring agencies. The audit will include the following tasks:

- Review progress made in developing SSMP elements
- Review monitoring and measurement tracked under Element 9
- Identify successes in implementing SSMP elements and needed improvements
- Describe system improvements during the past year
- Describe system improvements planned for the upcoming year
- Complete an SSMP Audit Checklist

10.1.1 Audit Documents

The SSMP Audit Checklist, included in **Attachment I** is used to guide the audit process and includes the GWDR requirements for each SSMP element. The results of the audit, including the identification of any deficiencies and the steps taken or planned to correct deficiencies will be included in an Audit Report. Future modifications and changes to the SSMP will be identified and tracked in a Change Log, included as **Attachment J.**

10.1.2 Previous Audits

Upon completion of an audit, the District will include a copy of the Audit Report in **Attachment I** of this SSMP. The 2012 SSMP was audited in October 2018; the report is included in **Attachment I.**

ELEMENT 11. COMMUNICATION PROGRAM

SWRCB Waste Discharge Requirement:

The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented.

The Enrollee shall also create a plan of communication with systems that are tributary and/or satellite to the Enrollee's sanitary sewer system.

11.1 Communication Program

The District has a well-established public outreach program. DSRSD's website (www.dsrsd.com) is an effective communication channel for providing alerts and news to the public and this SSMP is posted on the District website. The website provides the schedule and agendas for upcoming Board meetings, as well as minutes from previous meetings. The public has an opportunity to review, comment, and provide input on SSMP revisions through these meetings. DSRSD also publishes on its website various reports and plans related to its wastewater collection system.

The DSRSD Board of Directors has agency liaisons that communicate with each of the District's tributary and satellite agencies.

DSRSD has used its website and other means of communication to educate the public about a variety of environmental issues related to wastewater collection. As an example, the District's public outreach efforts regarding FOG control was presented in Section 7.2.5.

ATTACHMENT A

Contact Information for Responsible Officials in SSMP Content Development

Attachment A. Contact Info for Responsible Officials in SSMP Content Development		
Position	Name	Contact Info
General Manager	Dan McIntyre	P:925-875-2200 email:mcintyre@dsrsd.com
District Engineer/Engineering Services Manager	Judy Zavadil	P:925-875-2272 email:zavadil@dsrsd.com
Operations Manager	Jeff Carson	P:925-875-2345 email:carson@dsrsd.com
Wastewater Treatment Plant Operations Supervisor	Levi Fuller	P:925-875-2300 email:fuller@dsrsd.com
Process Lead WWTP Operator	Virgil Sevilla	P:925-875-2317 email:sevilla@dsrsd.com
Water/Wastewater Systems Operations and Maintenance Supervisor	Dan Martin	P:925-875-2367 email:dmartin@dsrsd.com
Water/Wastewater Systems Lead Operator	Scott Roberson	P:925-875-2372 email:roberson@dsrsd.com
Water/Wastewater Systems Lead Operator	Daniel Leonardo	P:925-875-2355 email:leonardo@dsrsd.com

ATTACHMENT B

Overflow Emergency Response Plan (OERP); District Procedures for Reporting Spills; and Dublin Lift Station Emergency Information

Dublin San Ramon Services District

Overflow Emergency Response Plan

Effective Date: _____

Revised Date: _____

Approved by: _____

Signature: _____

Date: _____

Prepared by David Patzer, DKF Solutions Group
(707) 373-9709 dpatzer@dkfsolutions.com

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(ref. SWRCB Order No. 2006-0003-DWQ Element VI)

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Appendix C: Field Sampling Kit

Appendix D: Contractor Orientation

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Sanitary Sewer Overflow Emergency Response Plan
(ref. SWRCB Order No. 2006-0003-DWQ Element VI)

1. Purpose

The purpose of the Dublin San Ramon Services District Emergency Response Plan (OERP) is to support an orderly and effective response to Sanitary Sewer Overflows (SSOs). The OERP provides guidelines for District personnel to follow in responding to, cleaning up, and reporting SSOs that may occur within the District's service area. This OERP satisfies the SWRCB Statewide General Waste Discharge Requirements (GWDR), which require wastewater collection agencies to have an Overflow Emergency Response Plan.

2. Policy

The District's employees are required to report all wastewater overflows found and to take the appropriate action to secure the wastewater overflow area, properly report to the appropriate regulatory agencies, relieve the cause of the overflow, and ensure that the affected area is cleaned as soon as possible to minimize health hazards to the public and protect the environment. The District's goal is to respond to sewer system overflows as soon as possible following notification. The District will follow reporting procedures in regards to sewer spills as set forth by the San Francisco Regional Water Quality Control Board (SFRWQCB) and the California State Water Resources Control Board (SWRCB).

3. Definitions As Used In This OERP

BUILDING DRAIN – The building drain is that part of the lowest wastewater piping which receives the discharge from drain pipes inside the walls of a building or structure and conveys it to the private lateral (generally connecting within 2' of the building wall).

BUILDING SEWER – Private Sewer Facilities that convey wastewater from the premises of a Customer to the Public Sewer System.

BUILDING WASTEWATER PIPELINES – The building wastewater pipelines are those black or grey water pipes installed within the walls of a building or structure that connect to the building drain. Building wastewater pipelines may include interior sump systems, grease traps or other appurtenances.

CALIFORNIA INTEGRATED WATER QUALITY SYSTEM (CIWQS): Refers to the State Water Resources Control Board online electronic reporting system that is used to report SSOs, certify completion of the SSMP, and provide information on the sanitary sewer system.

FOG – Fats, Oils, and Grease: FOG refers to fats, oils, and grease typically associated with food preparation and cooking activities that can cause blockages in the sanitary sewer system.

LEGALLY RESPONSIBLE OFFICIAL (LRO): Refers to an individual who has the authority to certify reports and other actions that are submitted through CIWQS.

MAINLINE SEWER: Refers to District wastewater collection system piping that is not a private lateral connection to a user.

MAINTENANCE HOLE OR MANHOLE: Refers to an engineered structure that is intended to provide access to a sanitary sewer for maintenance and inspection.

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NOTIFICATION OF AN SSO: Refers to the time at which the District becomes aware of an SSO event through observation or notification by the public or other source.

NUISANCE - California Water Code section 13050, subdivision (m), defines nuisance as anything that meets all of the following requirements:

a. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.

b. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.

c. Occurs during, or as a result of, the treatment or disposal of wastes.

PREVENTATIVE MAINTENANCE: Refers to maintenance activities intended to prevent failures of the wastewater collection system facilities (e.g. cleaning, CCTV, inspection).

PRIVATE LATERAL(S) – That part of the generally horizontal piping of a drainage system which extends from the end of the building drain and which receives the wastewater discharge from the structure and conveys it to a public sewer or other on-site individual sewage disposal system (septic system). The Private lateral begins at Building Drain and extends to and including the wye or point of connection with the public sewer. Private laterals may include privately owned pipelines, sump systems, interceptors or other appurtenances within private streets or private property common areas that are not dedicated to or owned by the District. Private laterals may also begin at the building drain and extend to a private sewer disposal system.

PRIVATE LATERAL SEWAGE DISCHARGES – Sewage discharges that are caused by blockages or other problems within a privately owned lateral.

PRIVATE SEWER DISPOSAL SYSTEM – The pipelines and points of connection of a building drain to a grease interceptor, an individual sewage disposal system (septic system), holding tank or other private point of disposal unaffiliated with the public sewer comprises a private sewer disposal system.

PRIVATE SEWER FACILITIES – Sewer facilities that are privately constructed and not dedicated and accepted as a Public Sewer Facility by the District. Private Sewer Facilities generally include sewer facilities within a privately owned building, service laterals, private pump stations, grease interceptors, and all other facilities located between the sewer customer and the connection to the collection line, including the integral wye fitting that connects the lateral to a collection line. Sewer facilities intended for dedication to the District are Private Sewer Facilities until such time as they are accepted by the District.

PUBLIC SEWER – A public sewer is the sewer collection system owned by the District lying within limits of public streets, roads, easements, reserves, non-exclusive easements or other public rights of way and downstream of the wye or cleanout on a Private lateral nearest to a sewer main. The location of a Private lateral within any public street or right of way does not convert it to a public sewer owned by the District unless the District has taken an affirmative action to accept ownership. Public sewer facilities owned and maintained by the District, including facilities designed and constructed by the District and facilities that have been dedicated and accepted by the District. Private Sewer Facilities constructed for dedication to the District do not become public sewers until they have been accepted by the District.

PUBLIC SEWER FACILITIES OR PUBLIC SEWER SYSTEM – Sewer facilities owned and maintained by the District, including facilities designed and constructed by the District and facilities that have been dedicated and accepted by the District. Private Sewer Facilities constructed for dedication to the District do not become Public Sewer Facilities until they have been accepted by the District.

ROOTS (R) Tree root (R) invasion presents an additional problem. If a mat of root hair forms in the sewer line it slows the flow of wastewater and exacerbates the rate of accumulation of FOG materials.

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SANITARY SEWER BACKUP (BACKUP) - Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.

SANITARY SEWER OVERFLOW (SSO) - Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs include:

(i) Overflows or releases of untreated or partially treated wastewater that reach waters of the United States;

(ii) Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and

(iii) Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.

SSOs that include multiple appearance points resulting from a single cause will be considered one SSO for documentation and reporting purposes in CIWQS.

NOTE: Wastewater backups into buildings caused by a blockage or other malfunction of a building lateral that is privately owned are not SSOs.

SSO Categories:

Category 1: Discharge of untreated or partially treated wastewater of any volume resulting from a sanitary sewer system failure or flow condition that either:

- Reaches surface water and/or drainage channel tributary to a surface water; or
- Reached a Municipal Separate Storm Sewer System (MS4) and was not fully captured and returned to the sanitary sewer system or otherwise captured and disposed of properly.

Category 2: Discharge of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from a sanitary sewer system failure or flow condition that either:

- Does not reach surface water, a drainage channel, or an MS4, or
- The entire SSO discharged to the storm drain system was fully recovered and disposed of properly.

Category 3: All other discharges of untreated or partially treated wastewater resulting from a sanitary sewer system failure or flow condition.

SANITARY SEWER SYSTEM: Any publicly-owned system of pipes, pump stations, sewer lines, or other conveyances, upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the publicly owned treatment facility. Temporary storage and conveyance facilities (such as vaults, temporary piping, construction trenches, wet wells, impoundments, tanks, etc.) are considered to be part of the sanitary sewer system, and discharges into these temporary storage facilities are not considered to be SSOs.

SENSITIVE AREA: Refers to areas where an SSO could result in a fish kill or pose an imminent or substantial danger to human health (e.g. parks, aquatic habitats, etc.)

SERVICE LATERAL OR LOWER LATERAL – Sewer pipeline from the cleanout or in the absence of a cleanout located in public streets, roads, easements, reserves, non-exclusive easements or other public rights of way to the collection line are District assets. Lower laterals intended for dedication to the District are Private Sewer Facilities until such time as they are accepted by the District.

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UNTREATED OR PARTIALLY TREATED WASTEWATER: Any volume of waste discharged from the sanitary sewer system upstream of a wastewater treatment plant headworks.

WATERS OF THE STATE*:* Waters of the State (or waters of the United States) means any surface water, including saline waters, within the boundaries of California. In case of a sewage spill, storm drains are considered to be waters of the State unless the sewage is completely contained and returned to the wastewater collection system and that portion of the storm drain is cleaned.

4. State Regulatory Requirements for Element 6, Overflow Emergency Response Plan

General Waste Discharge Requirement (GWDR)

The collection system agency shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

(a) Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;
(b) A program to ensure appropriate response to all overflows;
(c) Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, regional water boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the Monitoring and Reporting Program (MRP). All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board Waste Discharge Requirements or National Pollutant Discharge Elimination System (NPDES) permit requirements. The Sewer System Management Plan should identify the officials who will receive immediate notification;
(d) Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;
(e) Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and
(f) A program to ensure that all reasonable steps are taken to contain untreated wastewater and prevent discharge of untreated wastewater to Waters of the United States and minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

The Sewer System Management Plan and critical supporting documents are available to the public on the District's website: www.dsrsd.com.

5. Goals

The District's goals with respect to responding to SSOs are:

- Work safely;
- Respond quickly to minimize the volume of the SSO;
- Eliminate the cause of the SSO;
- Prevent sewage system overflows or leaks from entering the storm drain system or receiving waters to the maximum extent practicable;
- Contain the spilled wastewater to the extent feasible;
- Minimize public contact with the spilled wastewater;
- Mitigate the impact of the SSO;
- Meet the regulatory reporting requirements;
- Evaluate the causes of failure related to certain SSOs; and
- Revise response procedures resulting from the debrief and failure analysis of certain SSOs.

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6. SSO Detection and Notification

ref. SWRCB Order No. 2006-0003-DWQ VI(a)

The processes that are employed to notify the District of the occurrence of an SSO include: observation by the public, receipt of an alarm, or observation by District staff during the normal course of their work.

In the event of any pump failure at a District wastewater lift station, the high level sensor activates the SCADA alarm system and the District is contacted. To prevent overflow, wastewater from the wet well can either be pumped into a vacuum truck for disposal to a nearby sanitary sewer manhole, or bypassed around the station into the sanitary sewer system.

6.1 PUBLIC OBSERVATION

Public observation is the most common way that the District is notified of blockages and spills. Contact numbers and information for reporting sewer spills and backups are in the phone book and on the District's website: www.dsrsd.org. **The District's telephone number for reporting sewer problems are (925) 828-8524 during business hours, and (925) 462-1212 or 911 after hours.**

Normal Work Hours

When a report of a sewer spill or backup is made during business hours, the District's Receptionist receives the call, collects basic information about the caller and the problem, and forwards the request to the On Call Operator (or designee) who will dispatch a crew as appropriate based on the location and nature of the problem.

After Hours

After hours calls are received by the Alameda County Sheriff Dispatch. The call is forwarded to the On Call Operator. The request is forwarded to the Field Operations Supervisor who will dispatch a crew as appropriate based on the location and nature of the problem.

When calls are received, either during normal work hours or after hours, the individual receiving the call will collect the following information:

- Time and date of call
- Specific location of potential overflow or incident
- Nature of call
- In case of SSO, estimated start time of overflow and how long it has been occurring
- Caller's name, telephone number and address
- Caller's observations (e.g., odor, duration, location on property, known impacts, indication if surface water impacted, appearance at cleanout or manhole)
- Other relevant information

Figure 6.1 is an overview of the procedure for receiving a sewage overflow or backup report *(see next page):*

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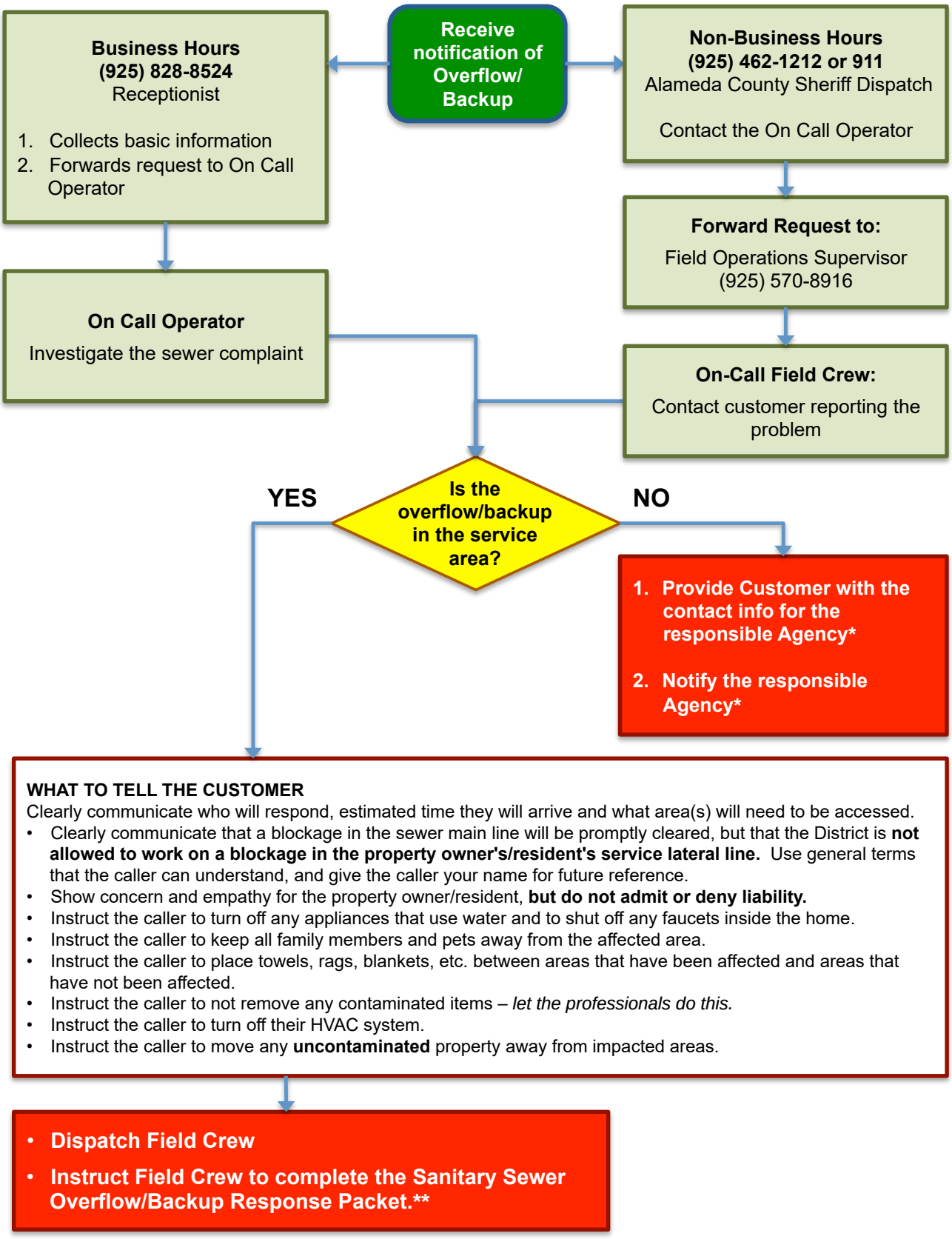
Fig. 6.1 Overview of Receiving a Sewage Overflow or Backup Report Procedure



* This information can be found in Attachment B, Appendix A (Regulatory Notification Packet).
** This information can be found in Attachment B, Appendix B (Sanitary Sewer Overflow/Backup Response Packet). Blank packets can be found in all Field Operations Division vehicles.

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6.2 DISTRICT STAFF OBSERVATION

District staff conducts periodic inspections of its sewer system facilities as part of their routine activities. Any problems noted with the sewer system facilities are reported to appropriate District staff that, in turn, responds to emergency situations. Work orders are issued to correct non-emergency conditions.

6.3 CONTRACTOR OBSERVATION

The following procedures are to be followed in the event that a contractor causes or witnesses a Sanitary Sewer Overflow. If the contractor causes or witnesses an SSO they should:

1. Immediately notify the District by calling (925) 828-8524 during business hours, and (925) 462-1212 or 911 after hours.
2. Protect storm drains.
3. Protect the public.
4. Provide information to the Field Crew such as start time, appearance point(s), suspected cause, weather conditions, etc.
5. Direct ALL media and public relations requests to the Office of the General Manager at (925) 828-0515.

Appendix C includes a handout for Contractors with a flowchart of the above procedures.

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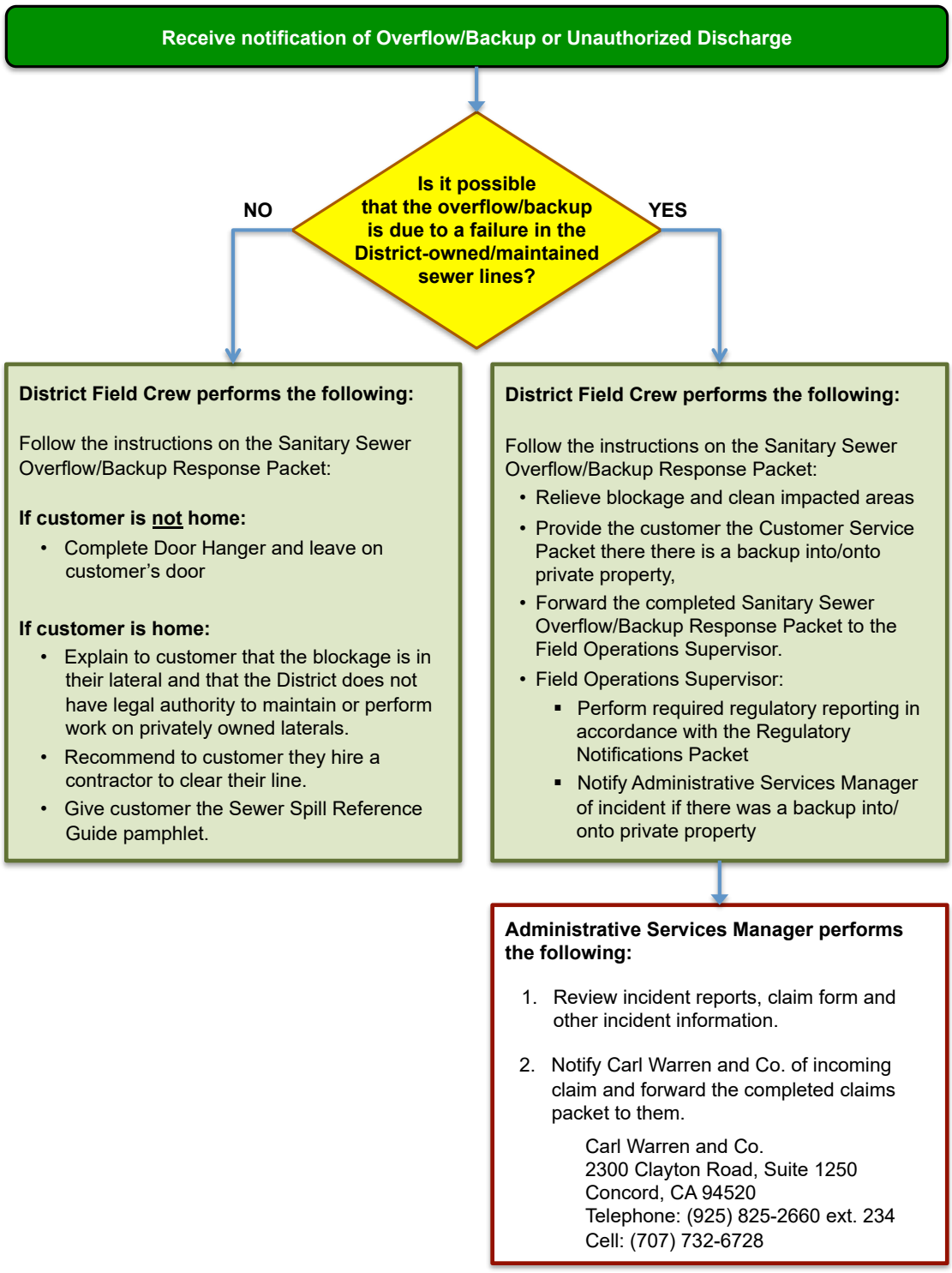
7. SSO Response Procedures

ref. SWRCB Order No. 2006-0003-DWQ Element 6(b)

7.1 Sewer Overflow/Backup Response Summary

The District will respond to SSOs as soon as feasible following notification of an overflow/backup or unauthorized discharge. The following (Figure 7.1) is an overview of the response activities.

Figure 7.1 Overview of SSO/Backup Response



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7.2 First Responder Priorities

The first responder's priorities are:

- To follow safe work practices.
- To respond promptly with the appropriate and necessary equipment.
- To contain the spill wherever feasible.
- To restore the flow as soon as practicable.
- To minimize public access to and/or contact with the spilled sewage.
- To promptly notify the Field Operations Supervisor in event of major SSO.
- To return the spilled sewage to the sewer system.
- To restore the area to its original condition (or as close as possible).
- To photograph and document affected and unaffected areas from a spill.

7.3 Safety

The first responder is responsible for following safety procedures at all times. Special safety precautions must be observed when performing sewer work. There may be times when District personnel responding to a sewer system event are not familiar with potential safety hazards associated with sewer work. In such cases it is appropriate to take the time to discuss safety issues, consider the order of work, and check safety equipment before starting the job. This includes use of gas monitoring detectors for air quality in manholes (follow confined space procedures) and traffic controls at the site.

7.4 Initial Response

The first responder must respond to the reporting party/problem site and visually check for potential sewer stoppages or overflows.

The first responder will:

- Note arrival time at the site of the overflow/backup.
- Verify the existence of a public sewer system spill or backup.
- Determine if the overflow or blockage is from a public or private sewer.
- Identify and assess the affected area and extent of spill.
- Contact caller if time permits.
- If the spill is large or in a sensitive area, document conditions upon arrival with photographs. Decide whether to proceed with clearing the blockage to restore the flow or to initiate containment measures. The guidance for this decision is:
    - Small spills (i.e., spills that are easily contained) – proceed with clearing the blockage.
    - Moderate or large spill where containment is anticipated to be simple – proceed with the containment measures.
    - Moderate or large spills where containment is anticipated to be difficult – proceed with clearing the blockage; however, whenever deemed necessary, call for additional assistance and implement containment measures.
- Take steps to contain the SSO. For detailed procedures refer to Appendix B: Sanitary Sewer Overflow and Backup Response Procedures.

7.6 Initiate Spill Containment Measures

The first responder will attempt to contain as much of the spilled sewage as possible using the following steps:

- Determine the immediate destination of the overflowing sewage.

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- Plug storm drains using air plugs, sandbags, and/or plastic mats to contain the spill, whenever appropriate. If spilled sewage has made contact with the storm drainage system, attempt to contain the spilled sewage by plugging downstream storm drainage facilities.
- Contain/direct the spilled sewage using dike/dam or sandbags.
- Pump around the blockage/pipe failure.

For detailed procedures refer to Appendix B: Sanitary Sewer Overflow and Backup Response Procedures.

7.5 Restore Flow

Using the appropriate cleaning equipment set up downstream of the blockage and hydro-clean upstream from a clear manhole. Attempt to remove the blockage from the system and observe the flows to ensure that the blockage does not reoccur downstream. If the blockage cannot be cleared within a reasonable time from arrival, or sewer requires construction repairs to restore flow, then initiate containment and/or bypass pumping. If assistance is required, immediately contact other employees, contractors, and equipment suppliers. For detailed procedures refer to Appendix B: Sanitary Sewer Overflow and Backup Response Procedures.

7.6 Equipment

This section provides a list of specialized equipment that may be used to support this Overflow Emergency Response Plan.

- *Closed Circuit Television (CCTV) Inspection Unit* – A CCTV Inspection Unit is required to determine the root cause for all SSOs from gravity sewers.
- *Camera* -- A digital or disposable camera is required to record the conditions upon arrival, during clean up, and upon departure.
- *Emergency Response Trucks* -- A utility body pickup truck, or open bed is required to store and transport the equipment needed to effectively respond to sewer emergencies. The equipment and tools will include containment and clean up materials.
- *Portable Generators, Portable Pumps, Piping, and Hoses* – Equipment used to bypass pump, divert, or power equipment to mitigate an SSO.
- *Combination Sewer Cleaning Trucks* -- Combination high velocity sewer cleaning trucks with vacuum tanks are required to clear blockages in gravity sewers, vacuum spilled sewage, and wash down the impacted area following the SSO event.
- *Air plugs, sandbags and plastic mats*
- *SSO Sampling Kits*

7.7 Outside Assistance

Responders will refer to the Emergency Contractor List as necessary for assistance with the response.

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8. Recovery and Cleanup

ref. SWRCB Order No. 2006-0003-DWQ Element 6(e)

The recovery and cleanup phase begins immediately after the flow has been restored and the spilled sewage has been contained to the extent possible. The SSO recovery and cleanup procedures are:

8.1 Estimate the Volume of Spilled Sewage

Use the methods outlined in the Sanitary Sewer Overflow and Backup Response Procedures (Appendix B), and/or the Field Guide to estimate the volume of the spilled sewage. Wherever possible, document the estimate using photos and/or video of the SSO site before and during the recovery operation.

8.2 Recovery of Spilled Sewage

Vacuum up and/or pump the spilled sewage and rinse water, and discharge it back into the sanitary sewer system.

8.3 Clean-up and Disinfection

Clean up and disinfection procedures will be implemented to reduce the potential for human health issues and adverse environmental impacts that are associated with an SSO event. The procedures described are for dry weather conditions and will be modified as required for wet weather conditions. Where cleanup is beyond the capabilities of District staff, a cleanup contractor will be used.

Private Property
District crews are responsible for the cleanup when the property damage is minor in nature and is outside of private building dwellings, such as in front, side and backyards, easements, etc. In all other cases, affected property owners can call a water damage restoration contractor to complete the cleanup and restoration. If the overflow onto private property is definitely the result of District system failure, the property owner can call out a water damage restoration contractor to complete the cleanup and restoration. In both cases, District claim forms may be issued if requested by the property owners.

Hard Surface Areas
Collect all signs of sewage solids and sewage-related material either by protected hand or with the use of rakes and brooms. Wash down the affected area with clean water and/or deozyme or similar non-toxic biodegradable surface disinfectant until the water runs clear. The flushing volume will be approximately three times the estimated volume of the spill. Take reasonable steps to contain and vacuum up the wastewater. Allow area to dry. Repeat the process if additional cleaning is required.

Landscaped and Unimproved Natural Vegetation
Collect all signs of sewage solids and sewage-related material either by protected hand or with the use of rakes and brooms. Wash down the affected area with clean water until the water runs clear. The flushing volume will be approximately three times the estimated volume of the spill. Either contain or vacuum up the wash water so that none is released. Allow the area to dry. Repeat the process if additional cleaning is required.

Natural Waterways
The Department of Fish and Wildlife will be notified by CalOES for SSOs greater than or equal to 1,000 gallons.

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Wet Weather Modifications
Omit flushing and sampling during heavy storm events (i.e., sheet of rainwater across paved surfaces) with heavy runoff where flushing is not required and sampling would not provide meaningful results

8.4 Public Notification

Signs will be posted and barricades put in place to keep vehicles and pedestrians away from contact with spilled sewage. County Environmental Health instructions and directions regarding placement and language of public warnings will be followed when directed. Additionally, the Field Operations Supervisor will use their best judgment regarding supplemental sign placement in order to protect the public and local environment. Signs will not be removed until directed by County Environmental Health, Field Operations Supervisor, or designee.

Creeks, streams and beaches that have been contaminated as a result of an SSO will be posted at visible access locations until the risk of contamination has subsided to acceptable background bacteria levels as determined by Alameda County Environmental Health. The warning signs, once posted, will be checked at least every day to ensure that they are still in place. Photographs of sign placement will be taken.

In the event that an overflow occurs at night, the location will be inspected first thing the following day. The field crew will look for any signs of sewage solids and sewage-related material that may warrant additional cleanup activities.

When contact with the local media is deemed necessary, the Office of the General Manager will provide the media with all revelvant information.

9. Water Quality

ref. SWRCB Order No. 2006-0003-DWQ Element 6(f)

9.1 Water Quality Sampling and Testing

Water quality sampling and testing is required for Category 1 SSOs of 50,000 gallons or greater to determine the extent and impact of the SSO. The water quality sampling procedures must be implemented within 48 hours and include the following:

- The Field Crew will collect water samples as soon as possible after the discovery and mitigation of the SSO event.
- The water quality samples will be collected from upstream of the spill, from the spill area, and downstream of the spill in flowing water (e.g. creeks). The water quality samples will be collected near the point of entry of the spilled sewage.
- The samples will then be brought to the DSRSD laboratory for analysis.

9.2 Water Quality Monitoring Plan

The District Water Quality Monitoring Plan will be implemented immediately upon discovery of any Category 1 SSO of 50,000 gallons or more in order to assess impacts from SSOs to surface waters. The SSO Water Quality Monitoring Program will:

1. Contain protocols for water quality monitoring.

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2. Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.)
3. Require water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.
4. Require monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy.
5. Within 48 hours of the District becoming aware of the SSO, require water quality sampling for ammonia and total and fecal coliform.
6. Observe proper chain of custody procedures.

9.3 SSO Technical Report

The District will submit an SSO Technical Report to the CIWQS Online SSO Database within 45 calendar days of the SSO end date for any SSO in which 50,000 gallons or greater are spilled to surface waters. The Operations Manager will supervise and prepare this report. This report, which does not preclude the Water Boards from requiring more detailed analyses if requested, shall include at a minimum, the following:

Causes and Circumstances of the SSO:

- Complete and detailed explanation of how and when the SSO was discovered.
- Diagram showing the SSO failure point, appearance point(s), and final destination(s).
- Detailed description of the methodology employed and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.
- Detailed description of the cause(s) of the SSO.
- Copies of original field crew records used to document the SSO.
- Historical maintenance records for the failure location.

District's Response to SSO:

- Chronological narrative description of all actions taken by the District to terminate the spill.
- Explanation of how the SSMP Overflow Emergency Response Plan was implemented to respond to and mitigate the SSO.
- Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.

Water Quality Monitoring:

- Description of all water quality sampling activities conducted including analytical results and evaluation of the results.
- Detailed location map illustrating all water quality sampling points.

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10. Sewer Backup Into/Onto Private Property Claims Handling Policy

It is the policy of the District that a claims form shall be offered to anyone wishing to file a claim. The following procedures will be observed for all sewer overflows/backups into/onto private property:

- District staff will offer a District claim form irrespective of fault whenever it is possible that the sanitary sewer backup may have resulted from an apparent blockage in the District-owned sewer lines or whenever a District customer requests a claim form. The claim may later be rejected if subsequent investigations into the cause of the loss indicate the District was not at fault.

- It is the responsibility of the Field Operations Supervisor and the Field Crew to gather information regarding the incident and notify the Administrative Services Manager.

- It is the responsibility of the Administrative Services Manager to review all claims and to oversee the adjustment and administration of the claim to closure.

11. Notification, Reporting, Monitoring and Recordkeeping Requirements

ref. SWRCB Order No. 2006-0003-DWQ Element 6(c)

In accordance with the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SSS GWDRs), the District maintains records for each sanitary sewer overflow. Records include:

- Documentation of response steps and/or remedial actions
- Photographic evidence to document the extent of the SSO, field crew response operations, and site conditions after field crew SSO response operations have been completed. The date, time, location, and direction of photographs taken will be documented.
- Documentation of how any estimations of the volume of discharged and/or recovered volumes were calculated including all assumptions made.

Regulator required notifications are outlined in Section 11.1 on the following page.

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11.1 Requirements Table

ELEMENT	REQUIREMENT	METHOD
NOTIFICATION	Within two hours of becoming aware of any Category 1 SSO greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it probably will be discharged to surface water, the District will notify the California Office of Emergency Services (CalOES) and obtain a notification control number.	Call Cal OES at: **(800) 852-7550**
REPORTING	• Category 1 or Category 2 SSO: The District will submit draft report within three business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date. • Category 3 SSO: The District will submit certified report within 30 calendar days of the end of month in which SSO the occurred. • SSO Technical Report: The District will submit within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or greater are spilled to surface waters. • "No Spill" Certification: The District will certify that no SSOs occurred within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred. • Collection System Questionnaire: The District will update and certify every 12 months	Enter data into the CIWQS Online SSO Database[1] (http://ciwqs.waterboards.ca.gov/)certified by the Legally Responsible Official(s)[2]. All information required by CIWQS will be captured in the Sanitary Sewer Overflow Report. Certified SSO reports may be updated by amending the report or adding an attachment to the SSO report within 120 calendar days after the SSO end date. After 120 days, the State SSO Program Manager must be contacted to request to amend an SSO report along with a justification for why the additional information was not available prior to the end of the 120 days.
WATER QUALITY MONITORING	The District will conduct water quality sampling within 48 hours for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.	Water quality results will be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.
RECORD-KEEPING	The District will maintain the following records: • SSO event records. • Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP. • Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters. • Collection system telemetry records if relied upon to document and/or estimate SSO Volume. • In accordance with District records retention schedule, records are maintained within the District's Electronic Records Management System (ERMS)	Self-maintained records shall be available during inspections or upon request.

[1] In the event that the CIWQS online SSO database is not available, the Wastewater Operations Supervisor will notify SWRCB by phone or email in accordance with the time schedules identified above. In such an event, the District will submit the appropriate reports using the CIWQS online SSO database when the database becomes available. A copy of all documents that certify the submittal in fulfillment of this section shall be retained in the SSO file.

[2] The District always has at least one LRO. Any change in the LRO(s) including deactivation or a change to contact information, will be submitted to the SWRCB within 30 days of the change by calling (866) 792-4977 or emailing help@ciwqs.waterboards.ca.gov.

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For reporting purposes, if one SSO event of any category results in multiple appearance points in a sewer system, a single SSO report is required in CIWQS that includes the GPS coordinates for the location of the SSO appearance point closest to the failure point, blockage or location of the flow condition that cause the SSO, and descriptions of the locations of all other discharge points associated with the single SSO event.

11.2 Complaint Records

The District maintains records of all complaints received whether or not they result in sanitary sewer overflows. The information collected includes:

- Date, time, and method of notification
- Date and time the complainant or informant first noticed the SSO or occurrence related to the call
- Narrative description describing the complaint
- A statement from the complainant or informant, if they know, of whether or not the potential SSO may have reached waters of the state
- Name, address, and contact telephone number of the complainant or informant reporting the potential SSO (if not reported anonymously)
- Follow-up return contact information for each complaint received (if not reported anonymously)
- Final resolution of the complaint with the original complainant
- Work service request information used to document all feasible and remedial actions taken

Records are maintained in the District Computerized Maintenance Management System (Lucity) for a minimum of five years whether or not they result in an SSO.

12. Post SSO Event Debriefing

ref. SWRCB Order No. 2006-0003-DWQ Element 6(d)

Every SSO event is an opportunity to evaluate the District response and reporting procedures. Each overflow event is unique, with its own elements and challenges including volume, cause, location, terrain, climate, and other parameters.

As soon as possible after Category 1 and Category 2 SSO events, all of the participants, from the person who received the call to the last person to leave the site, will meet to review the procedures used and to discuss what worked and where improvements could be made in preventing or in responding to and mitigating future SSO events. The results of the debriefing will be documented and tracked to ensure the action items are completed as scheduled.

13. Failure Analysis Investigation

ref. SWRCB Order No. 2006-0003-DWQ Element 6(d)

The objective of the failure analysis investigation is to determine the “root cause” of the SSO and to identify corrective action(s) needed that will reduce or eliminate future potential for the SSO to recur or for other SSOs to occur.

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The investigation will include reviewing all relevant data to determine appropriate corrective action(s) for the line segment. The investigation will include:

- Reviewing and completing the Sanitary Sewer Overflow Report (in Appendix B) and any other documents related to the incident
- Reviewing the incident timeline and other documentation regarding the incident,
- Reviewing communications with the reporting party and witness.
- Review volume estimate, volume recovered estimate, volume estimation assumptions and associated drawings,
- Reviewing available photographs,
- Interviewing staff that responded to the spill.
- Reviewing past maintenance records,
- Reviewing past CCTV records,
- Conducting a CCTV inspection to determine the condition of all line segment(s) immediately following the SSO and reviewing the video and logs,
- Reviewing any Fats, Oil and Grease (FOG) related information or results
- Review any root related information
- Post SSO debrief records
- Interviews with the public at the SSO location

The product of the failure analysis investigation will be the determination of the root cause and the identification and scheduling of the corrective actions. The Collection System Failure Analysis Form (in Appendix B) will be used to document the investigation.

14. SSO Response Training

ref. SWRCB Order No. 2006-0003-DWQ Element 6(d)

This section provides information on the training that is required to support this Overflow Emergency Response Plan.

14.1 Initial and Annual Refresher Training

All District personnel who may have a role in responding to, reporting, and/or mitigating a sewer system overflow will receive training on the contents of this OERP. All new employees will receive training before they are placed in a position where they may have to respond. Current employees will receive annual refresher training on this plan and the procedures to be followed. The District will document all training.

Affected employees will receive annual training on the following topics by knowledgeable trainers:

- The District's Overflow Emergency Response Plan and Sanitary Sewer Management Plan
- Sanitary Sewer Overflow Volume Estimation Techniques
- Researching and documenting Sanitary Sewer Overflow Start Times
- Impacted Surface Waters: Response Procedures
- State Water Resources Control Board Employee Knowledge Expectations

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- Employee Core Competency Evaluations on Sanitary Sewer Operations
- Water Quality Sampling Plan

The District will verify that annual safety training requirements are current for each employee, and that employees are competent in the performance of all core competencies. This will be verified through electronic testing, interviews and observations. The District will address, through additional training/instruction, any identified gaps in required core competencies.

Through SWRCB Employee Knowledge Expectations training the employee will be able to answer the following:

1. Please briefly describe your name and job title.
2. Please describe for us approximately when you started in this field and how long you have worked for your agency.
3. Please expand on your current position duties and role in responding in the field to any SSO complaints.
4. Please describe your SOPs used to respond/mitigate SSOs when they occur.
5. Describe any training your agency provides or sends you to for conducting spill volume estimates.
6. We are interested in learning more about how your historical SSO response activities have worked in the field. We understand from discussions with management earlier that you use the OERP from the SSMP. Please elaborate on how you implement and utilize the procedures in the plan.
7. Historically, before any recent changes, can you please walk us through how you would typically receive and respond to any SSO complaints in the field?
8. Can you tell us who is responsible for estimating SSO volumes discharged? If it is you, please describe how you go about estimating the SSO volume that you record on the work order/service request forms?
9. What other information do you collect or record other than what is written on the work order form?
10. Describe if and when you ever talk with people that call in SSOs (either onsite or via telephone) to further check out when the SSO might have occurred based on what they or others know? If you do this, can you tell us where this information is recorded?
11. We understand you may be instructed to take pictures of some sewer spills/backups into structures. Other than these SSOs, when else would you typically take any pictures of an SSO?
12. Please walk us through anything else you'd like to add to help us better understand how your field crews respond and mitigate SSO complaints.

14.2 SSO Response Drills

Periodic training drills or field exercises will be held to ensure that employees are up to date on these procedures, equipment is in working order, and the required materials are readily available. The training drills will cover scenarios typically observed during sewer related emergencies (e.g. mainline blockage, mainline failure, force main failure, pump station failure, and lateral blockage). The results and the observations during the drills will be recorded and action items will be tracked to ensure completion.

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14.3 SSO Training Record Keeping

Records will be kept with Human Resources of all training that is provided in support of this plan. The records for all scheduled training courses and for each overflow emergency response training event and will include date, time, place, content, name of trainer(s), and names and titles of attendees.

14.4 Contractors Working On District Sewer Facilities

All construction contractors working on District sewer facilities will be required to develop a project-specific OERP, will provide project personnel with training regarding the content of the contractor's OERP and their role in the event of an SSO, and to follow that OERP in the event that they cause or observe an SSO. Emergency response procedures shall be discussed at project pre-construction meetings, regular project meetings and after any contractor involved incidents.

All service contractors will be provided, and required to observe contractor procedures. See Appendix C: Contractor Orientation.

15. Authority

- Health & Safety Code Sections 5410-5416
- CA Water Code Section 13271
- Fish & Wildlife Code Sections 5650-5656
- State Water Resources Control Board Order No. 2006-0003-DWQ
- State Water Resources Control Board Order 2013-009-DWQ effective September 9, 2013

16. References

- Sanitary Sewer Overflow and Backup Response Field Guide, 2014, DKF Solutions Group, LLC
- Appendix A: Regulatory Notifications Packet
- Appendix B: Sanitary Sewer Overflow/Backup Response Packet
- Appendix C: Contractor Orientation

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Appendix A

REGULATORY NOTIFICATIONS PACKET

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Dublin San Ramon Services District: Overflow Emergency Response Plan

Regulatory Notifications Packet

Instructions:

1. Receive call from on-site crew reporting a Sanitary Sewer Overflow.
2. Open this packet.
3. Refer to Procedures for Reporting Spills (A-1) and the Regulatory Reporting Guide (A-2) for instructions.
4. Use the notification faxes (A-3 and A-4) as necessary.

Contents:

Print on 6”x9” envelope

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Regulatory Notifications Packet

Procedures for Reporting Spills

(Revised to include notification of DSRSD Safety Officer and Carl Warren on December 11, 2015)

Whoever receives notification that a spill has occurred or is in progress must immediately contact the District's designated person responsible for reporting spills. The designated person for reporting spills and their backups are as follows:

Levi Fuller	Primary person responsible for reporting spills and SSO's
Jeff Carson	Backup for reporting spills if Levi Fuller is not available
Senior Wastewater Operator on-duty	Backup for reporting spills if Levi Fuller and Jeff Carson are not available

SSO 1,000 gallons or more that escapes to a stream or surface waters (Category 1)

- Notify CAL OES at 800-852-7550 ***within 2 hours of confirming*** that the spill is sewage from a District sewer and that the spill has reached surface waters or is likely to reach surface waters. Write down the tracking control number that OES gives you. CAL OES will automatically notify the RWQCB and the local health department.
- If the spill is estimated to be 50,000 gallons or more to surface waters, water quality sampling is required. Call Environmental Compliance and ask for assistance collecting samples and photos (Kapil 925-570-6886, or cell 510-449-4745, or home 925-867-4475).
- Keep records or notes of how the spill volume was estimated.
- Notify Levi Fuller at 925-875-2300, 925-570-8775 cell, 707-552-4094 home. If you cannot reach Levi, contact Jeff Carson at 925-875-2345 or cell 510-798-6784. If you cannot reach Levi or Jeff, contact the Senior Operator on duty and ask the Senior Operator to report the spill using CIWQS. If you were unable to reach Jeff, contact Dan McIntyre at office 925-875-2200 or cell 925-321-0655.
- Notify the Safety Officer at 925-875-2393 or 925-570-8996 cell. If you cannot reach the Safety Officer, contact the Safety Technician at 925-875-2395 or 925-570-4419 cell. If you cannot reach the Safety Officer or the Safety Technician, contact the Safety Division Supervisor at 925-875-2359 or cell 925-570-8757.
- If the SSO results in sewage backed up into a home or business, within the first four hours notify Mauri McGuire at Carl Warren & Company at 805-650-7020 extension 1003, or 805-509-1426 cell.
- Call ACWD's Thomas Niesar at 510-668-6549 or cell 510-708-6392 and report the spill. If Thomas Niesar is unavailable call ACWD's Doug Chun at 510-668-6510 or cell 510-504-0225 and report the spill.
- If the spill impacts a flood control channel, then also e-mail Zone 7 at spillnotice@zone7water.com
- If the spill occurred in Dublin, call Dublin City Engineer Andy Russell's cell at 510-872-4905 and Dublin Public Works at 925-833-6630.
- If the spill occurred in Pleasanton, call Pleasanton Public Works at 925-931-5538.
- Report details concerning the spill to Michelle Gallardo on the next business day following the initial report of the spill. Michelle will follow up with Carl Warren & Company (CSRMA).
- **Submit a draft SSO report in CIWQS**: prepare and submit an uncertified SSO report using CIWQS **within 3 business days** after becoming aware of the SSO.
- **Certify the SSO report in CIWQS**: complete and certify the SSO report ***within 15 calendar days of the SSO end date***. The certified report must include detailed information about the spill.
- **SSO Technical Report**: for any Category 1 event estimated to spill 50,000 gallons or more into surface waters a Technical Report must be prepared and submitted in CIWQS ***within 45 days of the SSO end date***.

SSO less than 1,000 gallons that escapes to a stream or surface waters (Category 1)

- Notify Levi Fuller at 925-875-2300, 925-570-8775 cell, 707-552-4094 home. If you cannot reach Levi, contact Jeff Carson at 925-875-2345 or cell 510-798-6784. If you cannot reach Levi or Jeff, contact the Senior Operator on duty and ask the Senior Operator to report the spill using CIWQS.

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- Notify the Safety Officer at 925-875-2393 or 925-570-8996 cell. If you cannot reach the Safety Officer, contact the Safety Technician at 925-875-2395 or 925-570-4419 cell. If you cannot reach the Safety Officer or the Safety Technician, contact the Safety Division Supervisor at 925-875-2359 or cell 925-570-8757.
- If the SSO results in sewage backed up into a home or business, within the first four hours notify Mauri McGuire at Carl Warren & Company at 805-650-7020 extension 1003, or 805-509-1426 cell.
- Keep records or notes of how the spill volume was estimated.
- Report details concerning the spill to Michelle Gallardo on the next business day following the initial report of the spill. Michelle will follow up with Carl Warren & Company (CSRMA).
- **Submit a draft SSO report in CIWQS**: prepare and submit an uncertified SSO report using CIWQS ***within 3 business days*** after becoming aware of the SSO.
- Certify the SSO report in CIWQS: complete and certify the SSO report within 15 calendar days of the SSO end date. The certified report must include detailed information about the spill.

SSO 1,000 gallon spill or more that does not reach surface waters or that is 100% captured (Category 2)

- Notify Levi Fuller at 925-875-2300, 925-570-8775 cell, 707-552-4094 home. If you cannot reach Levi, contact Jeff Carson at 925-875-2345 or cell 510-798-6784.
- Notify the Safety Officer at 925-875-2393 or 925-570-8996 cell. If you cannot reach the Safety Officer, contact the Safety Technician at 925-875-2395 or 925-570-4419 cell. If you cannot reach the Safety Officer or the Safety Technician, contact the Safety Division Supervisor at 925-875-2359 or cell 925-570-8757.
- If the SSO results in sewage backed up into a home or business, within the first four hours notify Mauri McGuire at Carl Warren & Company at 805-650-7020 extension 1003, or 805-509-1426 cell.
- Keep records or notes of how the spill volume was estimated.
- If the spill occurred in Alameda County, especially for larger spills, you may want to call Alameda Co Env Health at 510-567-6736.
- If the spill occurred in Contra Costa County, especially for larger spills, you may want to call Contra Costa Co Env Health at 925-692-2500.
- If the spill occurred in Dublin, especially for larger spills, call Dublin City Engineer Andy Russell's cell at 510-872-4905 and Dublin Public Works at 925-833-6630.
- If the spill occurred in Pleasanton, especially for larger spills, call Pleasanton Public Works at 925-931-5538.
- Report details concerning the spill to Michelle Gallardo on the next business day following the initial report of the spill. Michelle will follow up with Carl Warren & Company (CSRMA).
- **Submit a draft SSO report in CIWQS**: prepare and submit an uncertified SSO report using CIWQS **within 3 business days** after becoming aware of the SSO.
- **Certify the SSO report in CIWQS**: complete and certify the SSO report ***within 15 calendar days of the SSO end date***. The certified report must include detailed information about the spill.

SSO spills less than 1,000 gallons from the District sewer system that do not reach surface waters (Category 3)

- Notify Levi Fuller at 925-875-2300, 925-570-8775 cell, 707-552-4094 home. If you cannot reach Levi, contact Jeff Carson at 925-875-2345 or cell 510-798-6784.
- Notify the Safety Officer at 925-875-2393 or 925-570-8996 cell. If you cannot reach the Safety Officer, contact the Safety Technician at 925-875-2395 or 925-570-4419 cell. If you cannot reach the Safety Officer or the Safety Technician, contact the Safety Division Supervisor at 925-875-2359 or cell 925-570-8757.
- If the SSO results in sewage backed up into a home or business, within the first four hours notify Mauri McGuire at Carl Warren & Company at 805-650-7020 extension 1003, or 805-509-1426 cell.
- Keep records or notes of how the spill volume was estimated.
- Report details concerning the spill to Michelle Gallardo on the next business day following the initial report of the spill. Michelle will follow up with Carl Warren & Company (CSRMA).
- **SSO report in CIWQS**: prepare, submit, and certify an SSO report ***within 30 calendar days of the end of the month in which the SSO occurred***. The certified report must include detailed information about the spill.

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Private sewer lateral spills and overflows, any size, residential or business

- Provide the property owner or the business manager with a copy of the **CSRMA instructions** for reporting private sewer spills, and tell the responsible party that notification and reporting are required by State law.
- If DSRSD staff respond to the private lateral spill to mitigate the overflow and/or perform clean-up work, notify the Safety Officer at 925-875-2393 or 925-570-8996 cell. If you cannot reach the Safety Officer, contact the Safety Technician at 925-875-2395 or 925-570-4419 cell. If you cannot reach the Safety Officer or the Safety Technician, contact the Safety Division Supervisor at 925-875-2359 or cell 925-570-8757.
- Spills of 1,000 gallons or more to surface waters should be reported by District staff to Cal OES if possible, or if it appears unlikely that the private owner will report the spill. If so, contact **CAL OES** at 800-852-7550.
- If the spill occurred in Dublin, call Dublin City Engineer Andy Russell's cell at 510-872-4905 and Dublin Public Works at 925-833-6630.
- I**f deemed appropriate, private sewer lateral spills should be reported by the District in CIWQS.** Certification of reports of private sewer lateral spills is not required.
- Report details concerning the spill to CSRMA by contacting Michelle Gallardo on the next business day following the initial report of the spill.
- If the spill occurred in Dublin, call Dublin Public Works at 925-833-6630.
- If the spill occurred in Pleasanton, call Pleasanton Public Works at 925-931-5538.

Partially treated wastewater or sludge spill with discharge to surface waters, 1,000 gallons or more

- Call CAL OES at 800-852-7550 ***within 2 hours*** of first learning about the spill, and obtain and write down the tracking control number they give you. CAL OES will automatically notify the RWQCB and the local health
- Call Environmental Compliance and ask for assistance collecting samples and photos (Kapil 925-570-6886 or cell 510-449-4745 or home 925-867-4475).
- Notify Levi Fuller at 925-875-2300, 925-570-8775 cell, 707-552-4094 home. If you cannot reach Levi, contact Jeff Carson at 925-875-2345 or cell 510-798-6784. If you were unable to reach Jeff, contact Dan McIntyre at office 925-875-2200 or cell 925-321-0655.
- Notify the Safety Officer at 925-875-2393 or 925-570-8996 cell. If you cannot reach the Safety Officer, contact the Safety Technician at 925-875-2395 or 925-570-4419 cell. If you cannot reach the Safety Officer or the Safety Technician, contact the Safety Division Supervisor at 925-875-2359 or cell 925-570-8757.
- Call ACWD's Thomas Niesar at 510-668-6549 or cell 510-708-6392 and report the spill. If Thomas Niesar is unavailable call ACWD's Doug Chun at 510-668-6510 or cell 510-504-0225 and report the spill.
- If the spill impacts a flood control channel, then e-mail Zone 7 at spillnotice@zone7water.com
- Call Pleasanton Public Works at 925-931-5538.
- Report details concerning the spill to CSRMA by contacting Michelle Gallardo on the next business day following the initial report of the spill.
- Prepare and submit to the RWQCB a full written report of the spill **within 5 business days**. The report should be directed to the RWQCB's **James Parrish**, Case Worker, James.Parrish@waterboards.ca.gov or 510-622-2381.

Partially treated wastewater or sludge spill with no discharge to surface waters, 1,000 gallons or more

- Call the RWQCB spill hotline at 510-622-2369 **as soon as possible** about the spill, and/or contact the RWQCB's Case Worker **James Parrish**, James.Parrish@waterboards.ca.gov or 510-622-2381.
- Notify Levi Fuller at 925-875-2300, 925-570-8775 cell, 707-552-4094 home. If you cannot reach Levi, contact Jeff Carson at 925-875-2345 or cell 510-798-6784.
- Notify the Safety Officer at 925-875-2393 or 925-570-8996 cell. If you cannot reach the Safety Officer, contact the Safety Technician at 925-875-2395 or 925-570-4419 cell. If you cannot reach the Safety Officer or the Safety Technician, contact the Safety Division Supervisor at 925-875-2359 or cell 925-570-8757.
- If the spill occurred in Alameda County, call Alameda Co Env Health at 510-567-6736.

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- If the spill occurred in Contra Costa County, call Contra Costa Co Env Health at 925-692-2500 during business hours, or 925-383-5445 after hours.
- Call ACWD's Thomas Niesar at 510-668-6549 or cell 510-708-6392 and report the spill. If Thomas Niesar is unavailable call ACWD's Doug Chun at 510-668-6510 or cell 510-504-0225 and report the spill.
- Call Pleasanton Public Works at 925-931-5538.
- Report details concerning the spill to CSRMA by contacting Michelle Gallardo on the next business day following the initial report of the spill.
- Prepare and submit to the RWQCB a full written report of the spill **within 5 business days**. The report should be directed to the RWQCB's **James Parrish**, Case Worker, James.Parrish@waterboards.ca.gov or 510-622-2381.

Recycled water spill of 50,000 gallons or more (secondary effluent, 3W, or DERWA)

- Call CAL OES at 800-852-7550 **as soon as possible** about the spill, and obtain and write down the tracking control number they give you. CAL OES will automatically notify the RWQCB and the local health department.
- Call Environmental Compliance and ask for assistance collecting samples and photos (Kapil 925-570-6886, or cell 510-449-4745, or home 925-867-4475).
- Call ACWD's Thomas Niesar at 510-668-6549 or cell 510-708-6392 and report the spill. If Thomas Niesar is unavailable call ACWD's Doug Chun at 510-668-6510 or cell 510-504-0225 and report the spill.
- If the spill impacts a flood control channel, then e-mail Zone 7 at spillnotice@zone7water.com
- If the spill occurred in Dublin, call Dublin City Engineer Andy Russell's cell at 510-872-4905 and Dublin Public Works at 925-833-6630.
- If the spill occurred in Pleasanton, call Pleasanton Public Works at 925-931-5538.
- Notify Levi Fuller at 925-875-2300, 925-570-8775 cell, 707-552-4094 home. If you cannot reach Levi, contact Jeff Carson at 925-875-2345 or cell 510-798-6784. If you were unable to reach Jeff, contact Dan McIntyre at office 925-875-2200 or cell 925-321-0655.
- Notify the Safety Officer at 925-875-2393 or 925-570-8996 cell. If you cannot reach the Safety Officer, contact the Safety Technician at 925-875-2395 or 925-570-4419 cell. If you cannot reach the Safety Officer or the Safety Technician, contact the Safety Division Supervisor at 925-875-2359 or cell 925-570-8757.
- Prepare and submit to the RWQCB a full written report of the spill **within 5 business days**. The report should be directed to the RWQCB's **James Parrish**, Case Worker, James.Parrish@waterboards.ca.gov or 510-622-2381.

Recycled water spill less than 50,000 gallons (secondary effluent, 3W, or DERWA)

- Gather pertinent information and send to Jeff/Levi/Raj for reporting with the next monthly eSMR.

SSO Reporting and Certification using CIWQS

- Reports must be filed using CIWQS at the following web address: http://ciwqs.waterboards.ca.gov/
- If the CIWQS website is down, reports must be faxed to CIWQS at 510-622-2460 containing all of the same on-line information.
- To access CIWQS, first you will need to login by entering a CIWQS **user name** and **password**. If you do not have a CIWQS user name and password, you will need to complete and submit an application. Note that applications must be submitted during normal working hours, and actual approval for access to CIWQS may take a day or more to obtain.

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- Applications can be found at:
  http://www.waterboards.ca.gov/water_issues/programs/ciwqs/chc_sso.shtml

- Login on at http://ciwqs.waterboards.ca.gov/
- Select SSO-Sanitary Sewer Overflows
- Select either Reporting New SSO or Modifying Existing SSO and fill in the appropriate information.
- Detailed information on SSO reporting and requirements can be found at:

http://www.waterboards.ca.gov/water_issues/programs/sso/docs/discharger_workbook.pdf

For convenience, you may want to print a copy of these instructions and keep them in a safe place, along with your personal CIWQS user name and password.

_____ _____

User Name Password

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Regulatory Notifications Packet

Procedures for Reporting Spills

(Revised to include notification of DSRSD Safety Officer and Carl Warren on December 11, 2015)

A-2
Side A

Reporting Instructions

Deadline	See Attachment B, Appendix A-2 side B for contact information and definitions of the categories of spills of untreated or partially treated wastewater from publically owned sanitary sewer system			Spill from Private Lateral
	Category 1	**Category 2**	**Category 3**	
2 hours after awareness of SSO	If the SSO is greater than or equal to 1,000 gallons, call CalOES at (800) 852-7550 Notify the Administrative Services Manager following any backup that could be the responsibility of DSRSD	Notify the Administrative Services Manager following any backup that could be the responsibility of DSRSD	Notify the Administrative Services Manager following any backup that could be the responsibility of DSRSD	-
48 Hours after awareness of SSO	If 50,000 gal or more will likely reach receiving waters, begin water quality sampling and initiate impact assessment	-	-	-
3 Days after awareness of SSO	Submit Draft Spill Report in the CIWQS* database	Submit Draft Spill Report in the CIWQS* database	-	-
15 Days after response conclusion	Certify Spill Report in CIWQS*. Update as needed until 120 days after SSO end time	Certify Spill Report in the CIWQS* database. Update as needed until 120 days after SSO end time	-	-
30 Days after end of calendar month in which SSO occurred	-	-	Certify Spill Report in the CIWQS* database. Update as needed until 120 days after SSO end time	-
45 days after SSO end date	If 50,000 gal or more were not recovered, submit SSO Technical Report using CIWQS*	-	-	-

* In the event that the CIWQS online SSO database is not available, do the following until the CIWQS online SSO database becomes available: (See contact information on Side B)

1. Make required notifications to the San Francisco Regional Water Quality Control Board (SFRWQCB office) using A-3, and
2. Notify the State Water Resources Control Board (SWRCB) by phone or email

Note: For reporting purposes, if one SSO event results in multiple appearance points, complete one SSO report in the CIWQS SSO Online Database, and report the location of the SSO failure point, blockage or location of the flow condition that caused the SSO, in the CIWQS SSO Online Database, including all the discharge points associated with the SSO event.

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Contact Information

Contact	Telephone/Fax/Email
CalOES	(800) 852-7550
DSRSD Administrative Services Manager	(510) 828-0515
Alameda County Environmental Health	Telephone: (510) 567-6736 Fax: (510) 337-9335
San Francisco Regional Water Quality Control Board (SFRWQCB):	Telephone: (510) 622-2369 Fax: (510) 622-2460
State Water Resources Control Board (SWRCB):	
Russell Norman, P.E.	(916) 323-5598 Russell.Norman@waterboards.ca.gov
Gil Vazquez, Water Resources Control Engineer	(916) 322-1400 Gil.Vasquez@waterboards.ca.gov

Authorized Personnel

The following are authorized to perform regulatory reporting:

- Operations Manager
- Wastewater Operations Supervisor
- Field Operations Supervisor

The following are the District's Legally Responsible Officials (LROs) and are authorized to perform regulatory reporting and electronically sign and certify SSO reports in CIWQS:

Title	Telephone
Wastewater Operations Supervisor	(925) 875-2300 or (925) 570-8775
Operations Manager	(925) 875-2345 or (510) 798-6784

Definitions of SSO Categories

The response crew will complete the SSO Report form in the SSO Packet to document how the category was determined.

Category	Definition
Category 1:	Discharge of untreated or partially treated wastewater of any volume resulting from a sanitary sewer system failure or flow condition that either: • Reaches surface water and/or drainage channel tributary to a surface water; or • Reached a Municipal Separate Storm Sewer System (MS4) and was not fully captured and returned to the sanitary sewer system or otherwise captured and disposed of properly.
Category 2:	Discharge of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from a sanitary sewer system failure or flow condition that either: • Does not reach surface water, a drainage channel, or an MS4, or • The entire SSO discharged to the storm drain system was fully recovered and disposed of properly.
Category 3:	All other discharges of untreated or partially treated wastewater resulting from a sanitary sewer system failure or flow condition

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Dublin San Ramon Services District Overflow Emergency Response Plan	Regional Water Quality Control Board Notification Fax	A-3

NOTE TO District Staff: Only use this form in the event that the CIWQS online SSO database is not available

FAX TO: San Francisco Regional Water Quality Control Board
Fax Number: (510) 622-2460

Date: _____
Pages: _____

FROM: Dublin San Ramon Services District
Telephone: (925) 828-0515
Fax: (925) 829-1180

Address of SSO: _____ City: _____

County: _____ Date/Time: _____

SSO Start Time: _____ SSO Stop Time: _____

Volume of SSO: _____ Volume Recovered: _____

Final Disposition: _____

_____

Affected Water Body: _____

Samples Collected? ☐YES ☐NO

Taken to: _____

Crew Members: _____

Agencies Notified	Number(s)			Contact	Time	Date
CalOES	(800) 852-7550	☐YES	☐NO			
CIQWS		☐YES	☐NO			

OTHER: _____

_____

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TO:
Alameda County Environmental Health Department
Fax: (510) 337-9335
Telephone: (510) 567-6700
Re:

FROM:
Dublin San Ramon Services District
Fax: (925) 829-1180
Telephone: (925) 828-0515

DATE:
# of Pages:

☐ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY

Notes/Comments:

NOTICE OF SANITARY SEWER OVERFLOW
In accordance with California Health and Safety Code Section 5410 et. seq.

Date: _____ Time spill was noticed: _____

Location: _____

City: _____

Estimated Volume: _____ gallons

Actions:

- ☐ Cleanup
- ☐ Containment
- ☐ Repair needed: Est. Date of _____

Notifications:

- ☐ Notified Regional Water Quality Control Board
- ☐ Notified Office of Emergency Services

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Appendix B

SANITARY SEWER OVERFLOW/BACKUP RESPONSE PACKET

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Sanitary Sewer Overflow / Backup Response Packet
Table of Contents

For pre-assembled packets contact DKF Solutions Group at (707) 373-9709 or losscontrol@sbcglobal.net

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Sanitary Sewer Overflow/Backup Response Packet

☐ **If this is a Category 1 SSO greater than or equal to 1,000 gallons immediately** contact one of the following to make the 2-hour notification to CalOES:

Title	Business Hours	After Hours
Operations Manager	(925) 875-2345	(510) 798-6784
Wastewater Operations Supervisor	(925) 875-2300	(925) 570-8775
Field Operations Supervisor	(925) 875-2367	(925) 570-8916

☐ **If there is a backup into/onto private property AND possibly due to a problem in the public sewer,** notify the following:

Administrative Services Manager: (925) 875-2270
Mauri McGuire, Carl Warren and Co.: (805) 650-7020 ext. 1003 (office)
(805) 509-1426 (cell)
(707) 732-6728 (main)

☐ **For restoration/remediation:**
Contact Restoration Management at (510) 315-5400 (Union City) or (707) 750-6320 (Benicia)

☐ **For any media requests:** Contact the Office of the General Manager at (925) 828-0515

Check here if you believe that fats, roots, oils and/grease (FROG) caused/contributed to the SSO: ☐

Field Crew:

- ☐ Follow the instructions on the Sanitary Sewer Overflow/Backup Response Flowchart. Note: If there is a backup and multiple dwelling units are affected, use one packet per unit and check here: ☐
- ☐ If indicated on the flowchart, give the customer the Bubbled Toilets Letter and/or the Customer Service Packet and have them initial here:
  Customer acknowledgement of receipt of Bubbled Toilets Letter: _____
  Customer acknowledgement of receipt of Customer Service Packet: _____
- ☐ Place completed forms in this envelope, complete the Chain of Custody record (right) and forward this packet to the Field Operations Supervisor.

CHAIN OF CUSTODY

Print Name: _____

Initial: _____

Date: _____

Time: _____

Field Operations Supervisor:

- ☐ Follow the instructions on the bottom of the Sanitary Sewer Overflow/ Backup Response Flowchart.
- ☐ Complete the Regulatory Notifications Packet.
- ☐ Complete the Chain of Custody record (right).
- ☐ If there is a backup:
  - ☐ Complete the Claims Submittal Checklist.
  - ☐ Forward this completed packet to the Administrative Services Manager.
- ☐ If no backup, file this completed packet in accordance with District policy.

CHAIN OF CUSTODY

Print Name: _____

Initial: _____

Date: _____

Time: _____

Administrative Services Manager: Refer to the Claims Submittal Checklist.

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Start Here

Take necessary measures to prevent sewage from entering storm drains.

If the SSO/PLSD is entering an area where public contact may occur, post "DANGER RAW SEWAGE" signs and place barricades as necessary to prevent public contact. Be sure to photograph any areas where warnings/ barricades are posted, as appropriate.

Does the backup appear to be due to a problem in the **District-owned/ maintained** sewer line?

NO

1. Determine whether the District should clear the stoppage/blockage or have the property owner/manager use a private contractor. Be sure to document District staff time and equipment used for potential billing purposes. Always notify the property owner/manager/ resident of the Private Lateral Sewage Discharge (PLSD) and any District actions taken.
2. Photograph all document **all** evidence that this SSO is from private property.
3. If tenant or property owner is unable to unwilling to address the cause of the overflow, immediately contact your supervisor and discuss whether Code Enforcement, the County Department of Environmental Health or Regional Water Quality Control Board should be notified.

YES

Consider the need to call out additional staff, contractor or mutual aid assistance or to notify upstream users to curtail water use.

Immediately notify the Field Operations Supervisor in the event of a large SSO event and if the SSO appears to be large, in a sensitive area, or there is doubt regarding the extent, impact, or how to proceed.

Was there a backup into the customer's residence?

NO

1. **Follow routing instructions on the front of the Sewer Overflow/ Backup Response envelope.**
2. **STOP. Do not continue to PAGE 2**

YES

If customer is <u>not</u> home:

- Contact the Field Operations Supervisor to discuss contacting the property owner/manager (using customer billing information) to gain entry if necessary.
- Complete Door Hanger and leave on customer's door.
- Leave a message on the customer's voicemail.

If customer is home:

- Recommend the customer shut off any appliances using water.
- Explain to customer that the blockage is in their lateral and that the District is not responsible to maintain or perform work on privately owned laterals. Consider showing the customer the unobstructed flow in the public sewer to help explain that the blockage is in their lateral.
- Consider cleaning the District-owned/maintained line manhole to manhole and other lines that may tie in to the main line.
- Recommend to customer they hire a contractor to clear their line.
- Give customer the Sewer Spill Reference Guide pamphlet.

If preliminary volume estimates indicate it is a Category 1 SSO greater than or equal to 1,000 gallons, immediately call one of the individuals on the front of the Sewer Overflow/Backup Response Packet envelope to make the 2-hour notification to CalOES.

BEGIN DIVERSION AND CONTAINMENT, AS NECESSARY

1. **DIVERT AWAY FROM SENSITIVE AREAS:**
   a. Cover unplugged storm drains w/mats, or use dirt/other material to divert sewage away from sensitive areas (e.g., schools, playgrounds, intersections, etc.)
   b. ENSURE PUBLIC CONTACT DOES NOT OCCUR. Use cones/barricades to isolate area.
2. **CONTAIN SSO & RETURN TO SYSTEM, IF POSSIBLE:**
   a. Plug storm drain catch basins or use rubber mats to cover basin inlet and divert flow to catch basin
   b. Build/excavate a berm to channel flow to downstream sanitary sewer manhole (*barricade manhole if left open)*
   c. Use bypass pumps to pump around blockage until it can be removed
   d. Divert to low area of ground where it can be collected later
3. **PHOTOGRAPH HOW THE SSO WAS DIVERTED/ CONTAINED, AS APPROPRIATE**

ADDRESS CAUSE OF SSO/BACKUP

1. Refer to the Pump Station Emergency Response Plans as applicable.
2. Ensure all electrical hazards have been Locked & Tagged out!
3. If the SSO/Backup is due to a:
   - **PUMPING FAILURE**: Implement the manual or integrated bypass system
   - **POWER FAILURE:** Ensure the switchover to backup power has occurred if the station has onsite backup power, or bring in an appropriate size generator to power the station.
4. Use cleaning equipment appropriate to situation and hydroflush to clear blockage. Make certain to either have the vactor setup at downstream manhole or use a fork/trap at the manhole outlet to catch any debris released. Once flow is normal, run line to next manhole.
5. Photograph staff activities while clearing the blockage, as appropriate.

Have 50,000 gallons or more of the SSO reached surface waters?

NO

YES

Collect water samples in accordance with the procedures in the Field Sampling Kit.

Is it feasible/practical to contain/recover any of the SSO from the surface waters?

NO

YES

Contain/recover/clean up as much of the SSO in the waters and shoreline as possible. Contact Field Operations Supervisor to request outside assistance, as appropriate.

Go to page 2

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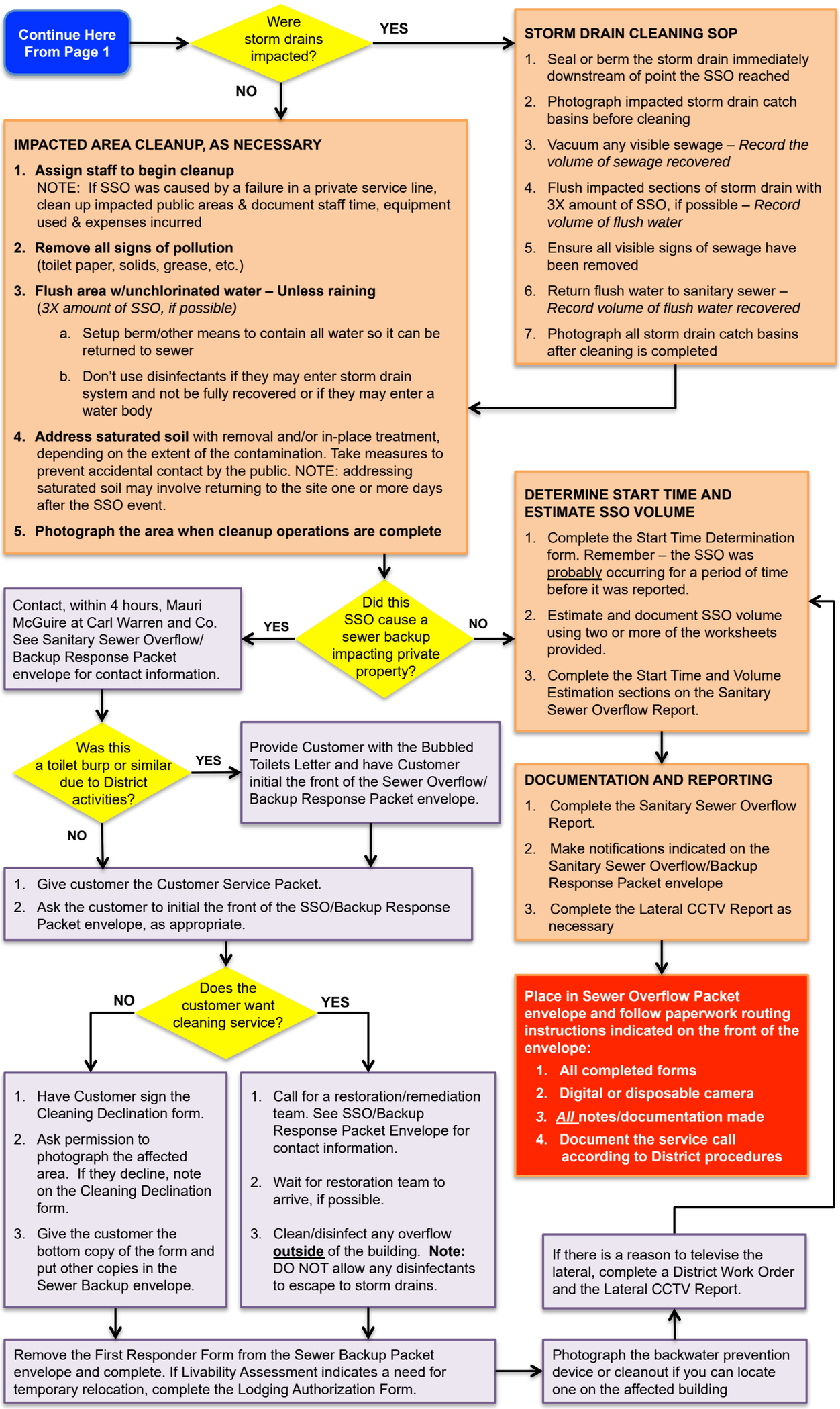

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Sanitary Sewer Overflow / Backup Response Packet

Start Time Determination Form

B-2

SSO Start Date: _____ Location: _____

Accurate start time determination is an essential part of SSO volume estimation. Depending on the flow rate, being even one minute off can have a huge impact on the volume estimation. Be as precise as possible. Do not round to quarter hour increments. Start time must be based on all available information (interviews with neighbors, emergency responders, etc.)

What time was the District notified of the SSO? _____ □ AM □ PM

Who notified the District? _____

Did they indicate what time they noticed the SSO? □ YES □ NO If yes, what time? _____ □ AM □ PM

Who at the District received the notification? _____

What time did the crew arrive at the site of the SSO? _____ □ AM □ PM

Who was interviewed regarding the start time of the SSO? Include their name, contact information, and the statement they provided:

Name	Contact Information	Statement

Describe in detail how you determined the start time for this particular SSO:

SSO Start Date: _____ SSO Start Time: _____ □ AM □ PM

SSO End Date: _____ SSO End Time: _____ □ AM □ PM

SSO Duration: _____ **minutes**

This form completed by:

Name: _____ Signature: _____

Job Title: _____ Date: _____

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Sanitary Sewer Overflow / Backup Response Packet

Volume Estimation: Eyeball Estimation Method

B-3a

Use this method only for small SSOs of less than 200 gallons.

SSO Date: _____ Location: _____

STEP 1: Position yourself so that you have a vantage point where you can see the entire SSO.

STEP 2: Imagine one or more buckets or barrels of water tipped over. Depending on the size of the SSO, select a bucket or barrel size as a frame of reference. It may be necessary to use more than one bucket/barrel size.

STEP 3: Estimate how many of each size bucket or barrel it would take to make an equivalent spill. Enter those numbers in Column A of the row in the table below that corresponds to the bucket/barrel sizes you are using as a frame of reference.

STEP 4: Multiply the number in Column A by the multiplier in Column B. Enter the result in Column C.

	A	B	C
Size of bucket(s) or barrel(s)	**How many of this size?**	**Multiplier**	**Estimated SSO Volume (gallons)**
1 gallon water jug		x 1 gallons	
5 gallon bucket		x 5 gallons	
32 gallon trash can		x 32 gallons	
55 gallon drum		x 55 gallons	
Other: _____ gallons		x _____ gallons	
Estimated Total SSO Volume:			

STEP 5: Is rainfall a factor in the SSO? ☐Yes ☐No

If yes, what volume of the observed spill volume do you estimate is rainfall? _____ gallons

If yes, describe how you determined the amount of rainfall in the observed spill?

STEP 6: Calculate the estimated SSO volume by subtracting the rainfall from the SSO volume:

_____ gallons – _____ gallons = _____ gallons

Estimated SSO Volume – Rainfall = **Total Estimated SSO Volume**

Do you believe that this method has estimated the entire SSO? ☐Yes ☐No

If no, you MUST use additional methods to estimate the entire SSO. If yes, it is advisable to use additional methods to support the estimation. Explain why you believe this method has/has not estimated the entire SSO:

This worksheet completed by:

Name: _____ Signature: _____

Job Title: _____ Date: _____

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Note: Refer to form B-4b Page 3 for computation formulas and guides

SSO Date: _____ Location: _____

STEP 1: Describe spill area surface: □Asphalt □Concrete □Dirt □Landscape □Inside Building □Other: _____

STEP 2: Draw/sketch the outline (footprint) of the spill. Then break the footprint down into recognizable shapes. Refer to the example on form B-4b Page 3.

STEP 3: Calculate the area of the footprint by completing the table below for each shape in Step 2.
If two shapes overlap, select one of the two shapes and estimate the percentage of that shape that does not overlap. Enter that percentage in the % Not Overlapping column. This will ensure that the overlap area is only counted once. Refer to the example on form B-4b Page 3.

Rectangles	Length	X	Width	X	% Not Overlapping*	=	Area
	ft	X	ft	X	%	=	ft^2
	ft	X	ft	X	%	=	ft^2
	ft	X	ft	X	%	=	ft^2

Triangles	Base	X	Height	Multiplier	X	% Not Overlapping*	=	Area
	ft	X	ft	÷ 2	X	%	=	ft^2
	ft	X	ft	÷ 2	X	%	=	ft^2
	ft	X	ft	÷ 2	X	%	=	ft^2

Circles	π	X	Radius	X	Radius	X	% Not Overlapping*	=	Area
	3.14	X	ft	X	ft	X	%	=	ft^2
	3.14	X	ft	X	ft	X	%	=	ft^2
	3.14	X	ft	X	ft	X	%	=	ft^2

Total Spill Area (sum of all three tables above): _____ **ft^2**

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STEP 4: Calculate the volume of the spill that **was NOT absorbed** into the ground. If the entire spill was absorbed, skip to Step 5.

a. If spill is of varying depths, take several measurements at different depths and find the average.

_____ inches ÷ _____ = _____ inches ÷ 12 = _____ feet
sum of measurements | # of measurements | average depth in inches | average depth in feet of ponded sewage

b. Calculate spill volume of ponded sewage in cubic feet by multiplying the Total Spill Area in Step 3 by the average depth calculated in Step 4a. Convert from cubic feet to gallons by multiplying by 7.48.

_____ ft^2 x _____ ft = _____ ft^3 x 7.48 gal = _____ gallons
spill area (Step 3) | average depth (Step 4a) | spill volume in cubic feet | estimated volume of ponded sewage

STEP 5: Calculate the volume of the spill that **was absorbed** into the ground. If only a wet stain is observed, use the guidelines on B-4b Page 3 for the average depth. When estimating the volume that was absorbed, take into consideration:

- How long the sewage has been sitting
- The air temperature on the day of the SSO
- Soil type for the area (e.g., hard-packed clay vs. loose or gravely soil)

When estimating the volume of the spill that was absorbed into the ground, it is also advisable to dig down far enough to reach dry soil and take the depth of the wet soil into consideration.

Estimated volume that was absorbed into the soil: _____ gallons
Explain how this estimation was determined:

STEP 6: Add the volume not absorbed (Step 4) plus the volume absorbed (Step 5) to get the total estimated volume:

_____ gallons + _____ gallons = _____ gallons
volume not absorbed | volume absorbed | **Total Estimated Spill Volume**

Do you believe that this method has estimated the entire SSO? ☐Yes ☐No
If no, you MUST use additional methods to estimate the entire SSO. If yes, it is advisable to use additional methods to support the estimation. Explain why you believe this method has/has not estimated the entire SSO:

This worksheet completed by:
Name: _____ Signature: _____
Job Title: _____ Date: _____

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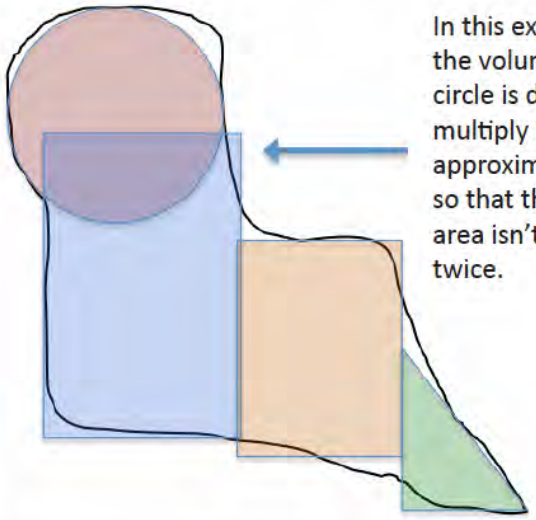
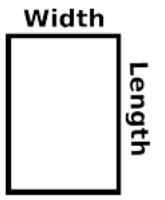
Miscellaneous Computations

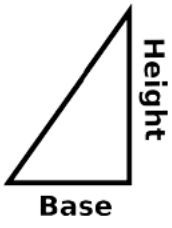
To convert inches to feet	Divide the inches by 12 or use the chart on the bottom right of this page.
Volume of one cubic foot	7.48 gallons of water
Area: Two-dimensional measurement represented in square feet	Square/rectangle: Area = Length x Width Circle: Area = πr^2 (where $\pi \approx 3.14$ and r = radius = ½ diameter) Triangle: Area = ½ (Base x Height)
Volume: Three-dimensional measurement represented in cubic feet	Rectangle/square footprint: Volume = Length x Width x Depth Circle footprint (cylinder): Volume = πr^2 x Depth (where $\pi \approx 3.14$ and r = radius = ½ diameter) Triangle footprint: Volume = ½ (Base x Height) x Depth
Depth: Contained or "Ponded" sewage	Measure actual depth of standing sewage whenever possible. When depth varies, measure several representative sample points and determine the average. Add the depth of the sample points and then divide that total by the number of sample points. If the depth is not measurable because it is only a wet stain, consider using the following estimated depths: • Depth of a wet stain on concrete surface: 0.0026' (1/32") • Depth of a wet stain on asphalt surface: 0.0013' (1/64")

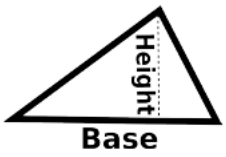
Example of how to draw/sketch the outline (footprint) of the spill for Step 2:

1. Sketch the outline of the spill (black line).
2. Break the sketch down into recognizable shapes (circles, squares, etc.) as well as you can.









Convert Inches to Feet	
Inches	Feet
1/8"	0.01'
1/4"	0.02'
3/8"	0.01'
1/2"	0.04'
5/8"	0.05'
3/4"	0.06'
7/8"	0.07'
1"	0.08'
2"	0.17'
3"	0.25'
4"	0.33
5"	0.42'
6"	0.50'
7"	0.58'
8"	0.67'
9"	0.75'
10"	0.83'
11"	0.92'
12"	1.00'

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Sanitary Sewer Overflow / Backup Response Packet

Volume Estimation: Upstream Lateral Connections Method

B-3c

SSO Date: _____ Location: _____

STEP 1: Determine the number of Equivalent Dwelling Units (EDUs) for this SSO: _____ EDUs
NOTE: A single-family residential home = 1 EDU. For commercial buildings, refer to agency documentation.

STEP 2: This volume estimation method utilizes daily usage data based on flow rate studies of several jurisdictions in California. Column A shows how an average daily of usage of 180 gallons per day is distributed during each 6-hour period. Adjust the table as necessary to accurately represent the actual data.

Complete Column E by entering the number of minutes the SSO was active during each 6-hour time period. Multiply column D times Column E to calculate the gallons spilled during each time period. Add the numbers in Column F together for the Total Estimated SSO Volume per EDU.

	Flow Rate Per EDU				SSO	
	A	**B**	**C**	**D**	**E**	**F**
Time Period	Gallons per Period	Hours per period	A ÷ B = Gallons per Hour	C ÷ 60 = Gallons per Minute	Minutes SSO was active during period	D × E = Gallons spilled per period
6am-noon	72	6	12	0.20		
noon-6pm	36	6	6	0.10		
6pm-midnight	54	6	9	0.15		
midnight-6am	18	6	3	0.05		
Total Estimated SSO Volume per EDU:						

STEP 3: Multiply the Estimated SSO Volume per EDU from Step 2 by the number of EDUs from Step 1.
_____ gallons X _____ = _____ gallons
Volume per EDU # of EDUs Estimated SSO Volume

STEP 4: Adjust SSO volume as necessary considering other factors, such as activity that would cause a fluctuating flow rate (doing laundry, taking showers, etc.). Explain rationale below and indicate adjusted SSO estimate (attach a separate page if necessary):

Estimated SSO Volume: _____ gallons

Do you believe that this method has estimated the entire SSO? ☐Yes ☐No
If no, you MUST use additional methods to estimate the entire SSO. If yes, it is advisable to use additional methods to support the estimation. Explain why you believe this method has/has not estimated the entire SSO:

This worksheet completed by:
Name: _____ Signature: _____
Job Title: _____ Date: _____

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Sanitary Sewer Overflow / Backup Response Packet
Sanitary Sewer Overflow Report

B-4
Side A

Spill Category *(check one)*:

- ☐ Category 1: Discharge of untreated or partially treated wastewater of any volume resulting from a sanitary sewer system failure or flow condition that either (1) Reaches surface water and/or drainage channel tributary to a surface water; OR (2) Reached a Municipal Separate Storm Sewer System (MS4) and was not fully captured and returned to the sanitary sewer system or otherwise captured and disposed of properly.
- ☐ Category 2: Discharge of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from a sanitary sewer system failure or flow condition that either (1) Does not reach surface water, a drainage channel, or an MS4, OR (2) The entire SSO discharged to the storm drain system was fully recovered and disposed of properly.
- ☐ Category 3: All other discharges of untreated or partially treated wastewater resulting from a sanitary sewer system failure or flow condition
- ☐ Spill from Private Lateral

Describe in detail the basis for choosing the spill category:

☐ **IMMEDIATE NOTIFICATION: If this is a Category 1 spill greater than or equal to 1,000 gallons, contact CalOES within 2 hours at (800) 852-7550.**

A. SPILL LOCATION

Spill Location Name:		
Latitude Coordinates*:	Longitude Coordinates:	
Street Name and Number:		
Nearest Cross Street:	City: American Canyon	Zip Code:
County: Napa	Spill Location Description:	

B. SPILL DESCRIPTION

Spill Appearance Point (check one or more): ☐ Building/Structure ☐ Force Main ☐ Gravity Sewer ☐Pump Station ☐Other Sewer System Structure *(i.e. cleanout)* ☐ Manhole- Structure ID#: ☐ Other *(specify):*

Did the spill reach a drainage channel and/or surface water? ☐ Yes (*Category 1)* ☐No

If the spill reached a storm sewer, was it fully captured and returned to the Sanitary Sewer? ☐ Yes ☐No (*Category 1)*

Was this spill from a private lateral? ☐ Yes ☐No If YES, name of responsible party:

Discharged into: ☐Ocean/ocean beach ☐Waters of the state other than ocean ☐Drainage channel ☐Combined storm drain ☐Separate storm drain ☐Paved surface ☐Unpaved surface ☐Building/structure ☐Street/curb/gutter ☐Other:
Provide name(s) of affected drainage channels, beach, etc.:

Total Estimated spill volume *(in gallons – 1,000gal or more = Category 1)*: gallons

Est. volume that reached a separate storm drain that flows to a surface water body:	gal	Recovered:	gal
Est. volume that reached a drainage channel that flows to a surface water body:	gal	Recovered:	gal
Est. volume discharged directly to a surface water body:	gal	Recovered:	gal
Est. volume discharged to land:	gal	Recovered:	gal

Calculation Methods: ☐Eyeball ☐Photo Comparison ☐Upstream Connections ☐Area/Volume ☐Lower Lateral ☐Other (describe):

NOTE: Attach all Spill Volume Estimation documentation including calculations and summary.

C. SPILL OCCURRING TIME

Estimated spill start date:	Estimated spill start time:
Date spill reported to sewer crew:	Time spill reported to sewer crew:
Date sewer crew arrived:	Time sewer crew arrived:
Who was interviewed to help determine start time?	
Estimated spill end date:	Estimated spill end time:

NOTE: Attach detailed start time determination documentation.

* If multiple appearance points, use the GPS coordinates for the location of the SSO appearance point closest to the failure point/blockage.

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Sanitary Sewer Overflow / Backup Response Packet

Sanitary Sewer Overflow Report

B-4
Side B

D. CAUSE OF SPILL

Location of Blockage: ☐ Main ☐ Lateral ☐Private Lateral ☐ Other:

SSO cause *(check all that apply)*: ☐ Debris/Blockage ☐ Flow exceeded capacity ☐Grease ☐ Operator error ☐ Roots
☐ Pipe problem/failure ☐ Pump station failure ☐ Rainfall exceeded design ☐ Vandalism ☐ Inflow/infiltration
☐ Animal carcass ☐ Electrical power failure ☐ Bypass ☐ Debris from laterals ☐ Construction Debris
☐ Other (specify):

Diameter (in inches) of pipe at point of blockage/spill cause (if applicable):

Sewer pipe material at point of blockage/spill cause (if applicable):

Estimated age of sewer asset at the point of blockage or failure (if applicable):

Description of terrain surrounding point of blockage/spill cause: ☐ Flat ☐ Mixed ☐ Steep

E. SPILL RESPONSE

Spill response activities (check all that apply): ☐ Cleaned up ☐ Contained all/portion of spill ☐ TV inspection ☐ Restored flow
☐ Returned all/portion of spill to sanitary sewer ☐Other (specify):

Spill response completed (date & time):

Visual inspection result of impacted waters (if applicable):

Any fish killed? ☐ Yes ☐ No Any ongoing investigation? ☐ Yes ☐ No

Were health warnings posted? ☐ Yes ☐ No If yes, provide health warning/beach closure posting/details:

Was there a beach closure? ☐ Yes ☐ No If yes, name of closed beach(es):

Were samples of impacted waters collected? ☐ Yes ☐ No
If YES, select the analyses: ☐ DO ☐ Ammonia ☐ Bacteria ☐ pH ☐ Temperature ☐ Other:

Recommended corrective actions: (check all that apply and provide detail)
☐ Clean line again ASAP:
☐ CCTV:
☐ Re-CCTV:
☐ Additional work:
☐ Cleaning schedule change:
☐ Cleaning method change:
☐ Fog investigation:
☐ Repair line segment:
☐ Replace line segment:
☐ Additional comments:

List all agency personnel involved in the response including name, title and their role in the response:

Name	Title	Role

F. NOTIFICATION DETAILS

CalOES contacted date and time (if applicable):

CalOES Control Number (if applicable): Spoke to:

G. RECOMMENDED FOLLOW-UP ACTIONS TO PREVENT FUTURE OCCURRENCES

CURRENT PM FREQUENCY:	DATE OF LAST PM:

RECOMMENDED ACTIONS: ☐ TV ☐ RE-RUN ☐ CHANGE CLEANING SCHEDULE
☐ REPAIR LINE SEGMENT ☐ REPLACE LINE SEGMENT ☐ OTHER (describe):

NOTES:

Place completed form in Sanitary Sewer Overflow/Backup Response Envelope and follow routing instructions.

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Sanitary Sewer Overflow / Backup Response Packet

Lateral CCTV Report

B-5

PLEASE COMPLETE AS THOROUGHLY AS POSSIBLE

PERSON COMPLETING THIS FORM:

DATE:
PHONE:

CAMERA TYPE:

LOCATION OF CAMERA ENTRY:

AFFECTED PROPERTY STREET ADDRESS:

LOCATION OF CAMERA STOP:

CITY, STATE AND ZIP:

DESCRIBE AREA TV'd:

PHONE

UPSTREAM MANHOLE #:

WEATHER AT TIME OF CCTV WORK:

PLEASE CHECK ALL THAT WERE DISCOVERED – *Describe Extent & Location Using Camera Entry Point As Reference*:

- ❒ Broken Lateral – Describe:
  Depth:
- ❒ Roots – Severity: ☐ Light ☐ Moderate ☐ Heavy
- ❒ Grease – Severity: ☐ Light ☐ Moderate ☐ Heavy
- ❒ Sag – Describe:
  Depth:
- ❒ BPD – Describe:
  Location:
- ❒ Cleanout – Describe:
  Location:
- ❒ Joint/Junction – Describe:
  Depth
- ❒ Grade – Describe:
- ❒ Grit – Severity: ☐ Light ☐ Moderate ☐ Heavy
- ❒ Other – Describe:

TIME OF OVERFLOW:

TIME BLOCKAGE RELIEVED:

TIME LATERAL TV'd:

DEPTH OF LATERAL:

RECOMMENDED
FOLLOW UP WORK ACTIONS:

Mark for USA location? ☐ Yes ☐ No

Lateral Locations Marked in Green Paint? ☐ Yes ☐ No

SIGNATURE OF EMPLOYEE PERFORMING TV WORK:

DATE

If applicable, place completed form in Sanitary Sewer Overflow/Backup Response Envelope and follow routing instructions.

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Dublin San Ramon Services District
Water, wastewater, recycled water

FOD WORK ORDER

WORK ORDER NO: _____ **PRIORITY:** _____

DATE/TIME TAKEN: _____

SOURCE OF REQUEST _____

LOCATION

	FIRST	LAST		
NAME:			**HOME PHONE:**	
			WORK PHONE:	
ENTITY:				

ADDRESS **STREET#** _____ **STREET NAME:** _____

STRUCTURE ID: U16D1-6

METER# _____

COMPLAINT / PROBLEM

CATEGORY: _____ **STATUS:** _____

DESCRIPTION OF PROBLEM: _____

PROBLEM INVESTIGATION AND RESPONSE

DESCRIPTION OF WORK DONE: _____

CUSTOMER CONTACTED ☐ **DATE/TIME:** _____ **BY:** _____

ARRIVED AT JOB DATE/TIME: _____

JOB INFO

INDIVIDUALS ON JOB	DATE STARTED	DATE COMPLETED	# OF HRS.
			0:00
			0:00
			0:00
			0:00

PERSON COMPLETING REPORT: _____ **SUPERVISOR:** _____

Dear Dublin San Ramon Services District Customer,

Thank you for informing us that your toilet bubbled while our crews were working in proximity of your property. We apologize for the inconvenience and hope that this letter will answer some of your questions about bubbling toilets.

1. **Is this a health risk?**
   The water that came out of your toilet is potable water from the toilet bowl. Unless your toilet was in use when this occurred, this water is no different than that encountered while cleaning your toilet.

2. **What is the District doing in the street?**
   In order to insure reliable sewer service, the District inspects, cleans, and repairs its sewer system on a continuous basis.

3. **How does sewer cleaning cause my toilet to bubble?**
   Typical industry cleaning equipment uses high-pressure water to clean sewers. The first step is to use the high-pressure water jets to propel the hose and cleaning nozzle upstream as far as 800 feet. During this process, air within the main pipe is displaced and sometimes goes up the private lateral pipe and releases though the toilet. This can also happen during the cleaning phase, when high-pressure water is pulled downstream to the cleaning truck.

4. **What causes the air to come from my toilet?**
   Over the years, District crews have found that the bubbling of toilets have many causes, some of which are:
   - Obstructed vent pipes;
   - Vent pipes that are positioned too far from the toilet;
   - Lateral pipes that may be in use as the crew is cleaning (e.g. draining washing machine, draining bathtub, etc.);
   - Lateral pipes that may have obstructions that are causing them to hold water (e.g. roots, grease, etc.).

5. **What does District staff do, once informed of a bubbling toilet?**
   Once notified of a bubbling toilet, the crew leader explains to the customer what has happened, and checks to see if there is a clean-out in the customer's yard that could be opened in the future during cleaning. The crew leader then makes notes and completes paperwork that puts the address on the District's computerized notification list. In the future, crews will notice that this address was "bubbled" at one time, and, before commencing the cleaning, they will notify the occupant of the possibility of bubbling toilets. In the event the occupant is not present when the cleaning begins, the crews will attempt to open clean-outs and/or lower water pressure to avoid bubbling.

6. **What can I do to prevent my toilet from bubbling?**
   When a sewer begins to drain slowly, it may be a sign that it needs to be cleaned or repaired. Trees and shrubs may have root structures that are entering the lateral pipe. The homeowner needs to make sure to have a clean-out for accessing the line. It is the homeowner's responsibility to keep the sewer lateral pipe in good working condition.

It is always a good idea to keep the toilet lid down when not in use, and not install carpets in the bathroom unless they can be easily removed and cleaned. For more information please call the Field Operations Supervisor at (925) 875-2367.

Sincerely,

Dublin San Ramon Services District

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Paquete de respuesta ante desborde / obstrucción del alcantarillado sanitario

Carta sobre inodoros que burbujean

B-7
ESPAÑOL

Estimado cliente de la Dublin San Ramon Servicios Distrito:

Gracias por informarnos que su inodoro burbujeó mientras nuestros equipos trabajaban en las cercanías de su propiedad. Pedimos disculpas por las molestias y esperamos que esta carta responda algunas de sus preguntas sobre los inodoros que burbujean.

1. **¿Es un riesgo para la salud?**
   El agua que salió de su inodoro es agua potable de la taza del inodoro. A menos que el inodoro haya estado en uso cuando esto sucedió, esta agua no es diferente a la que se encuentra cuando limpia el inodoro.

2. **¿Qué realiza la Ciudad en la calle?**
   A fin de asegurar un servicio de alcantarillado confiable, la Ciudad inspecciona, limpia y repara el sistema de alcantarillado de manera continua.

3. **¿De qué manera la limpieza del alcantarillado provoca que mi inodoro burbujee?**
   El equipo industrial típico de limpieza utiliza agua a alta presión para limpiar el alcantarillado. El primer paso es utilizar el chorro de agua a alta presión para impulsar la manguera y la boquilla de limpieza contracorriente con un alcance de hasta 243,8 m (800 pies). Durante este proceso, el aire dentro de la tubería principal se desplaza y algunas veces sube por la tubería lateral privada y se libera a través del inodoro. Esto también puede ocurrir durante la fase de limpieza, cuando el agua a alta presión se arrastra aguas abajo hasta el camión de limpieza.

4. **¿Qué provoca que el aire se libere por mi inodoro?**
   A través de los años, los equipos de la Ciudad descubrieron que el burbujeo de los inodoros ocurre debido a varias causas, entre las cuales encontramos las siguientes:
   - tubos de ventilación obstruidos;
   - tubos de ventilación que se colocan demasiado lejos del inodoro;
   - tuberías laterales que pueden estar en uso mientras el equipo realiza la limpieza (por ejemplo, el drenaje de la lavadora, el drenaje de la bañera, etc.);
   - tuberías laterales que pueden tener obstrucciones que hacen contener el agua (por ejemplo, raíces, grasa, etc.).

5. **¿Qué hace el personal de la Ciudad una vez que se le informa de un inodoro que burbujea?**
   Una vez que se notifica un inodoro que burbujea, el líder del equipo le explica al cliente lo que ha sucedido y comprueba si hay un registro de alcantarillado en el patio del cliente que podría abrirse en limpiezas futuras. Luego, el líder del equipo toma notas y completa documentación para incluir la dirección en la lista automatizada de notificaciones de la Ciudad. En el futuro, los equipos notarán que en esta dirección hubo “burbujeos” en un momento y, antes de comenzar la limpieza, notificará al ocupante acerca de la posibilidad de que burbujeen los inodoros. En caso de que el ocupante no esté presente cuando la limpieza se inicia, los equipos intentarán abrir los registros de alcantarillado y bajar la presión del agua para evitar el burbujeo.

6. **¿Qué puedo hacer para evitar que mi inodoro burbujee?**
   Cuando un alcantarillado comienza a drenar lentamente, puede ser un signo de que es necesario limpiarlo o repararlo. Los árboles y arbustos pueden tener estructuras de raíz que entren en la tubería lateral. El propietario debe asegurarse de tener un registro de alcantarillado para acceder a la línea. Es responsabilidad del dueño de casa mantener la tubería lateral de la alcantarilla en buen funcionamiento.

Siempre es una buena idea mantener la tapa del inodoro baja cuando no está en uso y no instalar alfombras en el baño a menos que puedan quitarse y limpiarse con facilidad. Para obtener más información, comuníquese con el Supervisor de Operaciones de Campo al (925) 875-2367.

Atentamente,

Dublin San Ramon Servicios Distrito

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Sanitary Sewer Overflow / Backup Response Packet
Declination of Sewage Cleaning Services

B-8

Customer Information		
NAME:	ADDRESS:	TELEPHONE:

ON (date)	AT (time)	Approximately (quantity)	GALLONS OF:
			☐ Sewage ☐ Grey Water ☐ Toilet Bowl Water ☐ Odor ☐ Other (describe):

Overflowed from (or odor emanating from)
- ☐ Toilet
- ☐ Shower/Tub
- ☐ Washer
- ☐ Other (describe):

The overflow affected the following areas *(check one):*
- ☐ Bathroom ☐ Bedroom
- ☐ Hallway ☐ Garage
- ☐ Kitchen ☐ Crawlspace
- ☐ Other (specify):

The overflow affected the following flooring:
- ☐ Tile ☐ Wood Flooring
- ☐ Linoleum ☐ Carpet
- ☐ Other (specify):

and/or additional materials:
- ☐ Area Rugs ☐ Towels
- ☐ Clothing ☐ Other (specify):

Were photos taken?: ☐ Yes ☐ No If yes, where are photos stored?

This Form Completed By: Name: **Date:**

(Write legibly) Title: **Time:**

CUSTOMER, please read the following and sign below:
I/We acknowledge that Dublin San Ramon Services District (District) has offered to provide professional cleaning and decontamination services to remediate the sewage backup and/or overflow described above and that we declined the offer. We further understand and acknowledge that because we have declined, any necessary remediation activities will be conducted without District assistance, and that the District will not accept responsibility for work performed by persons other than those engaged by the District. The District will also not accept responsibility for any charges related to this incident that are not usual and customary. Please refer to the Customer Service Packet for whom to contact if you have any questions.

Customer Signature*:		**Date:**
The information above was explained to the customer by the following employee:	**Name:**	**Title:**
	Signature:	**Date:**

**Note to responders: if customer declines to sign this form, then have a co-worker sign here as a witness:*

Name: _____ *Signature:* _____ *Date:* _____

Recommendations to customer to clean up the spill:

- Keep pets and children out of the affected area
- Turn off heating/air conditioning systems
- Wear rubber boots, rubber gloves, and goggles during cleanup of the affected area.
- Remove and discard items that cannot be washed and disinfected (such as: mattresses, rugs, cosmetics, baby toys, etc.)
- Remove and discard drywall and insulation that has been contaminated with sewage or flood waters.
- Thoroughly clean all hard surfaces (such as flooring, concrete, molding, wood and metal furniture, countertops, appliances, sinks and other plumbing fixtures) with hot water and laundry or dish detergent.
- Help the drying process with fans, air conditioning units, and dehumidifiers.
- After completing cleanup, wash your hands with soap and water. Use water that has been boiled for 1 minute (allow water to cool before washing your hands.) OR use water that has been disinfected (solution of 1/8 teaspoon of household bleach per 1 gallon of water). Let it stand for 30 min. If water is cloudy, use ¼ teaspoon of household bleach per 1 gallon of water.
- Wash all clothes worn during the cleanup in hot water and detergent (wash separately from uncontaminated clothes).
- Wash clothes contaminated with flood or sewage water in hot water and detergent. Use a laundromat for washing large quantities of clothes and linens until your onsite wastewater system has been professionally inspected and services.
- Seek immediate attention if you become injured or ill.

Distribution Instructions – Top Copy to District records; Middle Copy to Field Operations Supervisor; Bottom Copy to Customer

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Sanitary Sewer Overflow / Backup Response Packet

First Responder Form

Fill out this form as completely as possible.
Ask customer if you may enter the home. If so, take photos of all damaged and undamaged areas.

PERSON COMPLETING THIS FORM: Name: _____ Title: _____	PHONE: DATE: TIME:
TIME STAFF ARRIVED ON-SITE:	
DOES THE CUSTOMER WANT THE DISTRICT TO CALL A CLEANING CONTRACTOR? ☐ Yes ☐ No IF NO, complete the Declination of Sewage Cleaning Services form. DID CUSTOMER CALL CLEANING CONTRACTOR? ☐ Yes ☐ No If YES, name of contractor:	
RESIDENT NAME: ☐ Owner ☐ Renter	IF RENT, PROPERTY MANAGER(S): OWNER:
STREET ADDRESS: CITY, STATE AND ZIP: PHONE:	STREET ADDRESS: CITY, STATE AND ZIP: PHONE:
Is nearest upstream manhole visibly higher than the drain/fixture that overflowed? ☐ Yes ☐ No	
# OF PEOPLE LIVING AT RESIDENCE:	

Approximate Age of Home:	# of Bathrooms:	# of Rooms Affected:
Approximate Amount of Spill (gallons):	Approximate Time Sewage Has Been Sitting (hrs/days):	

Numbers of Photographs or Videos Taken: ☐ Photographs ☐ Video	Where are photos/video stored?

Does property have a Property Line Cleanout or BPD?	☐ YES ☐ NO ☐ Unknown
If yes, was the Property Line Cleanout/BPD operational at the time of the overflow?	☐ YES ☐ NO ☐ Unknown
Have there ever been any previous spills at this location?	☐ YES ☐ NO ☐ Unknown
Has the resident had any plumbing work done recently? *If YES, please describe:*	☐ YES ☐ NO

GO TO PAGE 2

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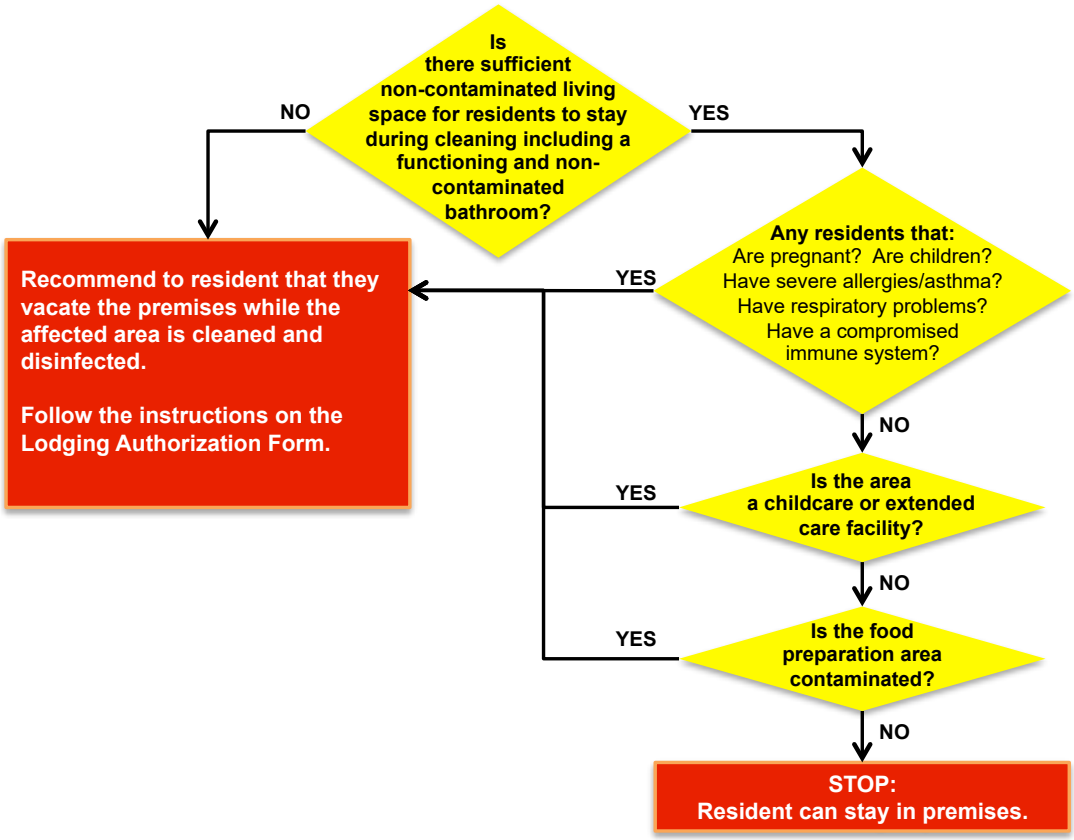
LIVABILITY ASSESSMENT



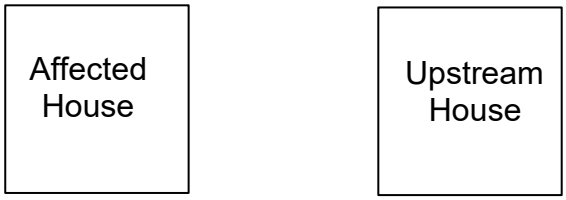
SANITARY SEWER LINE BLOCKAGE LOCATION

PLEASE CHECK THE BOXES THAT DESCRIBE YOUR OBSERVATIONS:

Customer Cleanout Was:	Public Cleanout was:
☐ Non-Existent	☐ Non-Existent
☐ Full	☐ Full
☐ Empty	☐ Empty

Recommended Follow-Up Action(s):

On the diagram below, indicate the location of the sewer line and where the problem occurred.



Did sewage go under buildings? ☐ Yes ☐ No ☐ Unsure

Place completed form in Sanitary Sewer Overflow/Backup Response Envelope and follow routing instructions

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Sanitary Sewer Overflow / Backup Response Packet

Lodging Authorization Form

B-10

INSTRUCTIONS TO EMPLOYEE:

1. Review this form with the customer and instruct them to read and select, in order of preference, which of the hotels below they wish to stay in.
2. Contact the Operations Manager at (925) 875-2345 or the Field Operations Supervisor at (925) 570-8916 who will contact the selected hotel and use the City credit card to authorize one (1) night's lodging.
3. Explain to customer that additional nights and other incidentals will be addressed by the Administrative Services Manager.
4. Instruct the customer that this emergency authorization is for LODGING ONLY – NO FOOD, MINIBAR, MOVIE, PHONE or Other Charges).
5. Have the customer sign the Acknowledgement section of this form.
6. Complete the voucher information and sign. Please note that an unsigned voucher will not be honored at the hotels.
7. Give the bottom copy of this form to the customer.

INSTRUCTIONS TO RESIDENT: Dublin San Ramon Services District recommends that you temporarily relocate to a local hotel for your safety and convenience while your residence is being cleaned. Please note that this emergency authorization is granted under the following conditions:

1. This authorization provides for one (1) nights' lodging at the hotel selected below.
2. The authorization is good for **room and tax ONLY**. Phone, food, minibar and other incidental charges will be your responsibility.
3. Additional nights, other allowances, and special circumstances may be discussed by contacting Dublin San Ramon Services District's Administrative Services Manager at (925) 875-2270.
4. Please bring a photo ID with you so that hotel staff can verify the voucher's authenticity.

CUSTOMER ACKNOWLEDGEMENT:

I/we have read and understood the terms and conditions governing this offer of temporary relocation and agree to abide by them as described above.

Customer Name (please print): _____

Customer Address: _____

Phone # where customer may be reached: _____

Customer Signature: _____ Date: _____

☐ Check here to decline this offer of temporary relocation. Customer Signature: _____

Good for one (1) night's stay on (date): _____ Number of affected residents: _____

DSRSD Representative's Name: _____ Phone Number: _____

This voucher is valid at the following hotels:

Extended Stay America
4555 Chabot Drive
Pleasanton, CA 94588
(925) 730-0000

Residence Inn - Pleasanton
11920 Dublin Canyon Road
Pleasanton, CA 94588
(925) 227-0500

La Quinta Inn & Suites
6275 Dublin Boulevard
Dublin, CA 94568
(925) 828-9393

Distribution: Top Copy to District records Middle Copy to Field Operations Supervisor Bottom Copy to Customer

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Sanitary Sewer Overflow / Backup Response Packet

Claims Submittal Checklist

B-11

Complete this form if there is a Sanitary Sewer Backup into/onto Private Property

Field Operations Supervisor

1. **Complete the following information:**

   Title: _____

   Name: _____

   Phone: _____

   Today's Date: _____

2. **Copy the items listed below and retain originals for internal archiving purposes.**

3. **Place the copies in the Backup Response Envelope and forward to the Administrative Services Manager:**

   - ☐ **Form B-2: Start Time Determination Form**
   - ☐ **Form B-3: Volume Estimation Forms (a, b and/or c)**
   - ☐ **Form B-4: Sanitary Sewer Overflow Report**
   - ☐ **Form B-5: Lateral CCTV Report**
   - ☐ **Form B-6: Work Order Form**
   - ☐ **Form B-8: Declination of Sewage Cleaning Services**
   - ☐ **Form B-9: First Responder Form**
   - ☐ **Form B-10: Lodging Authorization Form**
   - ☐ **Form B-11: Claims Submittal Checklist** *(this form)*
   - ☐ **All photos taken: Check here if digital photographs will be forwarded separately** ☐
   - ☐ **Any other information you feel is important in this claim**

4. **Go to Regulatory Notifications Packet and make all appropriate notifications.**

5. **Complete Form BP-12: Collection System Failure Analysis**

Administrative Services Manager

1. **Verify claims packet is complete.**

2. **Notify Carl Warren and Co. of incoming claims and forward the completed claims packet to:**

   Carl Warren and Co.
   2300 Clayton Road, Suite 1250
   Concord, CA 94520
   Telephone: (925) 825-2660 ext. 234
   Cell: (707) 732-6728

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To be completed by the Field Operations Supervisor
NOTE: The information contained on this form may be confidential.

Incident Report #		Prepared By	
SSO/Backup Information			
Event Date/Time	Address		
Volume Spilled	Volume Recovered		
Cause			
Summary of Historical SSOs/Backups/Service Calls/Other Problems			
Date	Cause	Date Last Cleaned	Crew
Records Reviewed By:		Record Review Date:	
Summary of CCTV Information			
CCTV Inspection Date		Tape Name/Number	
CCTV Tape Reviewed By		CCTV Review Date	
Observations			

Go to Page 2

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Recommendations					
✓	Type	Specific Actions	Who is Responsible?	Completion Deadline	Who Will Verify Completion?
	No Changes or Repairs Required	n/a	n/a	n/a	n/a
	Repair(s)				
	Construction				
	Capital Improvement(s)				
	Change(s) to Maintenance Procedures				
	Change(s) to Overflow Response Procedures				
	Training				
	Misc.				
Comments/Notes:					
Review Date:					

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Customer Service Packet

Form	Form Number
Customer Information Letter	CS-1
Claim Form	-2
Sewer Spill Reference Guide	pamphlet

Instructions:

1. Review the Customer Information letter to determine actions that need to be taken immediately.
2. See the Customer Information letter for information about filing a claim.
3. Review the Sewer Spill Reference Guide pamphlet.

If you have any questions contact:

- Regarding sewer issues: Field Operations Supervisor (925) 570-8916
- Regarding claim issues: Administraive Services Manager (925) 875-2270

This packet provided by: _____
Phone: _____

Paquete de servicio al cliente

Formulario	Número de formulario
Carta de información para el cliente	CS-1
Formulario de reclamación	-2
Guía de referencia en caso de desborde del alcantarillado	folleto

Instrucciones:

1. Revise la carta de información para el cliente para determinar qué medidas deben tomarse inmediatamente.
2. Consulte la carta de información para el cliente sobre cómo presentar una reclamación.
3. Revise el folleto de la Guía de referencia en caso de desborde del alcantarillado.

Si tiene alguna consulta, comuníquese con las siguientes entidades:

- Para los problemas relacionados con el alcantarillado, comuníquese con el Supervisor de Operaciones de Campo: (925) 570-8916
- Para los problemas relacionados con las reclamaciones, comuníquese con el Gerente de Servicios Administrativos: (925) 875-2270

Este paquete lo proporciona: _____
Teléfono: _____

Print on 6” x 9” envelope

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Sanitary Sewer Overflow / Backup Response Packet

Customer Information Regarding Sewer Backup Claims

CS-1
ENGLISH

Dear Resident:

We recognize that sewer back flow incidents can be stressful and require immediate response when all facts concerning how an incident occurred are unknown. Rest assured that we do all we can to prevent this type of event from occurring. Nevertheless, occasionally tree roots or other debris in the sewer lines cause a backup into homes immediately upstream of the blockage. At this time the District is investigating the cause of this incident.

If the District is found to be responsible for the incident, we are committed to cleaning and restoring your property, and to protecting the health of those affected during the remediation process.

The cleaning contractor provided by the District has been selected because of their adherence to established protocols that are designed to assure all parties thorough, cost-effective and expeditious cleaning services. You also have the right to select your own cleaning contractor, but the District does not guarantee payment of fees/expenses incurred and reserves the right to dispute fees/expenses deemed not usual and customary.

What you need to do now:

- Contact a restoration company for clean up and removal of affected surfaces.
- Do not attempt to clean the area yourself, let the company you hire handle this.
- Keep people and pets away from the affected area(s).
- Turn off heating/air conditioning systems.
- Turn off any appliances that use water.
- Prevent any material from reaching floor vents to prevent contamination.
- Do not remove items from the area –the company you hire will handle these contents.
- If you had recent plumbing work, contact your plumber or contractor.
- Contact your homeowner's insurance carrier to report a claim.
- If you believe the District is responsible for damages you may file a claim. Contact the Administrative Services Manager at (925) 875-2270 for more information.

Important Legal Notice: For your protection, read carefully, obtain a reliable translation, and/or consult your attorney.

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Sanitary Sewer Overflow / Backup Response Packet

Customer Information Regarding Sewer Backup Claims

CS-1
SPANISH

Estimado Residente:

Reconocemos que los incidentes de flujo posterior de alcantarillado ser estresantes y requieren una respuesta inmediata cuando se desconocen todos los hechos concernientes a cómo ocurrió un incidente. Tenga la seguridad de que hacemos todo lo posible para evitar este tipo de acontecimiento que se produzca. Sin embargo, de vez en cuando las raíces de los árboles u otros desechos en las líneas de alcantarillado causan una copia de seguridad en los hogares inmediatamente aguas arriba del bloqueo. En este momento el Distrito está investigando la causa de este incidente.

Si se determina que el Distrito es responsable del incidente, estamos comprometidos a limpiar y restaurar su propiedad ya proteger la salud de los afectados durante el proceso de remediación.

El contratista de limpieza proporcionado por el Distrito ha sido seleccionado debido a su adherencia a los protocolos establecidos que están diseñados para asegurar a todas las partes los servicios de limpieza exhaustivos, costo-efectivos y expeditos. Usted también tiene el derecho de seleccionar su propio contratista de limpieza, pero el Distrito no garantiza el pago de los honorarios / gastos incurridos y se reserva el derecho de disputar los honorarios / gastos que se consideran no usuales y acostumbrados.

Lo que necesita saber en este momento:

- Póngase en contacto con una empresa de restauración para la limpieza y eliminación de las superficies afectadas.
- No intente limpiar el área, deje que la empresa de contratar a manejar esto.
- Mantenga a las personas ya las mascotas alejados de la zona afectada (s).
- Apague la calefacción / aire acondicionado.
- Apague todos los electrodomésticos que utilicen agua.
- Evite que el material alcance respiraderos del piso para evitar la contaminación.
- No quitar elementos de la zona-la empresa que se encargará de contratar a estos contenidos.
- Si ha tenido el trabajo de plomería reciente, póngase en contacto con un plomero o contratista.
- Póngase en contacto con soporte de su seguro de propietario para presentar una reclamación.
- Si usted cree que la ciudad es responsable de los daños que puede presentar una reclamación. Comuníquese con el Gerente de Servicios Administrativos al (925) 875-2270 para obtener más información.

Aviso legal importante: Para su protección, lea atentamente el material, obtenga una traducción confiable y/o hable con su abogado.

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Dublin San Ramon Services District
Water, wastewater, recycled water

7051 Dublin Boulevard
Dublin, CA 94568-3018

ph: (925) 828-0515
fax: (925) 829-1180
www.dsrsd.com

A. THE NAME AND POST OFFICE ADDRESS OF THE CLAIMANT:

DAYTIME TELEPHONE:

EVENING TELEPHONE:

B: THE POST OFFICE ADDRESS TO WHICH THE PERSON PRESENTING THE CLAIM DESIRES NOTICES TO BE SENT:

TELEPHONE:

C. THE DATE, PLACE, AND OTHER CIRCUMSTANCES OF THE OCCURRENCE OR TRANSACTION WHICH GAVE RISE TO THE CLAIM ASSERTED:

DATE OF OCCURRENCE:

TIME OF OCCURRENCE:

PLACE OF OCCURRENCE:

CIRCUMSTANCES:

D. A GENERAL DESCRIPTION OF THE INDEBTEDNESS, OBLIGATION, INJURY, DAMAGE OR LOSS INCURRED SO FAR AS IT MAY BE KNOWN AT THE TIME OF PRESENTATION OF THE CLAIM:

E. THE NAME OR NAMES OF THE PUBLIC EMPLOYEE OR EMPLOYEES CAUSING THE INJURY, DAMAGE, OR LOSS, IF KNOWN.

F. AMOUNT OF CLAIM: $
(if less than $10,000.00)

JURISDICTION OF CLAIM:
__ MUNICIPAL COURT (CLAIMS TO $25,000)
__ SUPERIOR COURT (CLAIMS OVER $25,000)

BASIS OF COMPUTATION:

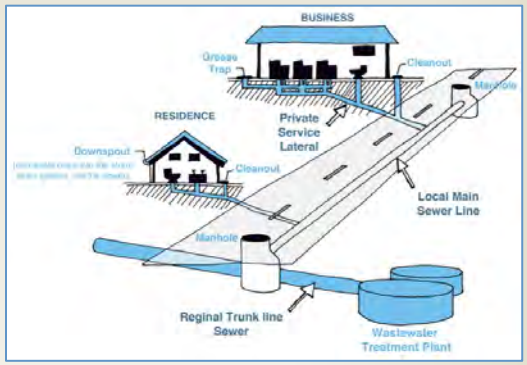
DECLARATION
I DECLARE UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE STATE OF CALIFORNIA THAT THE FOLLOWING INFORMATION IS TRUE AND CORRECT

SIGNATURE OF CLAIMANT OR REPRESENTATIVE:

DATE:

How a Sewer System Works

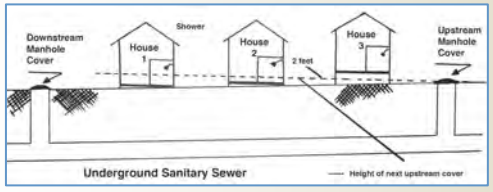
A property owner's sewer pipes are called ***service laterals*** and are connected to larger local main and regional trunk lines.
Service laterals run from the connection at the home to the connection with the public sewer. These laterals are the responsibility of the property owner and must be maintained by the property owner.



Is my home required to have a backflow prevention device?

Section 710.1 of the Uniform Plumbing Code (U.P.C.) states: *"Drainage piping serving fixtures which have flood level rims located below the elevation of the next upstream manhole cover or private sewer serving such drainage piping* ***shall*** *be protected from backflow of sewage by installing an approved type of backwater valve."* The intent of Section 710.1 is to protect the building interior from mainline sewer overflows or surcharges.

Additionally, U.P.C. 710.6 states: *"Backwater valves* ***shall*** *be located where they will be accessible for inspection and repair at all times and, unless continuously exposed, shall be enclosed in a masonry pit fitted with an adequately sized removable cover."*



If you have a sewage spill from your private sewer line that impacts storm drains, waterways or public property, contact:

Dublin San Ramon Services District
(925) 828-0515

Alameda County Environmental Health
(510) 567-6700

California Health and Safety Code, Sections 5410-5416 requires:

- No person shall discharge raw or treated sewage or other waste in a manner that results in contamination, pollution, or a nuisance.
- Any person who causes or permits a sewage discharge to any state waters:
  - Must immediately notify the local health agency of the discharge.
  - Shall reimburse the local health agency for services that protect the public's health and safety.
  - Who fails to provide the required notice to the local health agency is guilty of a misdemeanor and shall be punished by a fine (between $500–$1,000) and/or imprisonment for less than one year.

San Francisco Regional Water Quality Control Board
(510) 622-2300

Requires the prevention, mitigation, response to, and reporting of sewage spills.

California Governor's Office of Emergency Services (CalOES)
(800) 852-7550

California Water Code, Article 4, Chapter 4, Sections 13268-13271 & California Code of Regulations, Title 23, Division 3, Chapter 9.2, Article 2, Sections 2250-2260 require:

- Any person who causes or permits sewage in excess of 1,000 gallons to be discharged to state waters shall immediately notify the Office of Emergency Services.
- Any person who fails to provide the notice required by this section is guilty of a misdemeanor and shall be punished by a fine (less than $20,000) and/or imprisonment for not more than one year.

Sewer Spill Reference Guide

Your Responsibilities as a Private Property Owner

Provided to you by:

Dublin San Ramon Services District

7051 Dublin Boulevard
Dublin, California 94568

(925) 828-0515

www.dsrsd.com

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How do sewage spills happen?

Sewage spills occur when the wastewater in underground pipes overflows through a manhole, cleanout, or broken pipe. Most spills are relatively small and can be stopped and cleaned up quickly, but left unattended they can cause health hazards, damage to homes and businesses, and threaten the environment, local waterways, and beaches.

CAUTION!

When trying to locate a sewer problem, never open manholes or other public sewer structures. Only our crews are allowed to open & inspect these structures.

Common causes of sewage spills

- Grease build-up
- Tree roots
- Broken/cracked pipes
- Missing or broken cleanout caps
- Undersized sewers
- Groundwater/rainwater entering the sewer system through pipe defects and illegal connections

Prevent most sewage backups with a Backflow Prevention Device

This type of device can help prevent sewage backups into homes and businesses. If you don't already have a Backflow Prevention Device, contact a professional plumber or contractor to install one as soon as possible.

Protect the environment!

If you let sewage from your property discharge to a gutter or storm drain, you may be subject to penalties and/or out-of-pocket costs for clean-up and enforcement efforts. A property owner may be charged for costs incurred by agencies responding to spills from private properties.

What to look for:

Sewage spills can be a very noticeable gushing of water from a manhole or a slow water leak that may take time to be noticed. Don't dismiss unaccounted-for wet areas. Look for:

- Drain backups inside the building.
- Wet ground and/or water leaking around manhole lids onto your street.
- Leaking water from cleanouts or outside drains
- Unusual odorous wet areas: sidewalks, external walls, ground/landscape around a building.

The following are indicators of a possible obstruction in your sewer line:

- Water comes up in floor drains, showers or toilets.
- Toilets, showers or floor drains below ground level drain very slowly.

What to do if there is a spill:

Immediately notify the District. Our crews locate the blockage and determine if it is in the public sewer. If it is, the crew removes the blockage and arranges for cleanup. If the backup is in your private internal plumbing or in the private service laterals, you are required to immediately:

- Control and minimize the spill by shutting off or not using the water
- Keep sewage out of the storm drain system using sandbags, dirt and/or plastic sheeting
- Call a plumbing professional to clear blockages and make repairs as needed. Look in the yellow pages under "Plumbing Drain & Sewer Cleaning" or "Plumbing Contractors."
- Always notify your sewer/public works department or public sewer district of sewage spills.

Spill cleanup inside the home:

For large clean ups, a professional cleaning firm should be contacted to clean up impacted areas, You can locate local firms by looking in the Yellow Pages under "Water Damage" or "Fire Damage." If you hire a contractor, it is recommended to get estimates from more than one company. Sometimes, homeowner's insurance will pay for the necessary cleaning due to sewer backups. Not all policies have this coverage, so check with your agent.

If you decide to clean up a small spill inside your home, protect yourself from contamination by observing the following safety measures. Those persons whose resistance to infection is compromised should not attempt this type of clean up.

Other Tips:

- Keep children and pets out of the affected area until cleanup has been completed.
- Turn off heating/air conditioning systems
- Wear rubber boots, rubber gloves, and goggles during cleanup of the affected area.
- Discard items that cannot be washed and disinfected (such as: mattresses, rugs, cosmetics, baby toys, etc.)
- Remove and discard drywall and insulation that has been contaminated with sewage or flood waters.
- Thoroughly clean all hard surfaces (such as flooring, concrete, molding, wood and metal furniture, countertops, appliances, sinks and other plumbing fixtures) with hot water and laundry or dish detergent.
- Help the drying process with fans, air conditioning units, and dehumidifiers.
- After completing cleanup, wash your hands with soap and water. Use water that has been boiled for 1 minute (allow the water to cool before washing your hands) OR use water that has been disinfected (solution of 1/8 teaspoon of household bleach per 1 gallon of water). Let it stand for 30 min. If water is cloudy, use ¼ teaspoon of household bleach per 1 gallon of water.
- Wash clothes worn during cleanup in hot water and detergent (wash apart from uncontaminated clothes).
- Wash clothes contaminated with sewage in hot water and detergent. Consider using a Laundromat until your onsite wastewater system has been professionally inspected and serviced.
- Seek immediate attention if you become injured or ill.

Spill cleanup outside the home:

- Keep children and pets out of the affected area until cleanup has been completed.
- Wear rubber boots, rubber gloves, and goggles during cleanup of affected area.
- Clean up sewage solids (fecal material) and place in properly functioning toilet or double bag and place in garbage container.
- On hard surfaces areas such as asphalt or concrete, it is safe to use a 2% bleach solutions, or ½ cup of bleach to 5 gallons of water, but don't allow it to reach a storm drain as the bleach can harm the environment.
- After cleanup, wash hands with soap and water. Use water that has been boiled for 1 minute (allow to cool before washing your hands) OR use water that has been disinfected (solution of 1/8 teaspoon of household bleach per 1 gallon of water). Let it stand for 30 min. If water is cloudy, use ¼ teaspoon of household bleach per 1 gallon of water.
- Wash clothes worn during cleanup in hot water and detergent (wash apart from uncontaminated clothes).
- Wash clothes contaminated with sewage in hot water and detergent. Consider using a Laundromat until your onsite wastewater system has been professionally inspected and serviced.
- Seek immediate attention if you become injured/ill.

Overflow Emergency Response Plan
Public Posting

DANGER

RAW SEWAGE • AVOID CONTACT

PELIGRO

AGUA CONTAMINADA • EVITE TODO CONTACTO

For more information — Para más información

Dublin San Ramon Services District

(925) 828-0515

Dublin San Ramon Services District

On (date) _____, at (location) _____ , we responded to a reported blockage of the sanitary sewer service to your property.

We discovered a blockage in:

- o The District sanitary sewer and cleared the line
- o Your sanitary sewer lateral, which is your responsibility to maintain.

If you require assistance to clear your portion of the lateral you can look on the Internet or in the Yellow Pages of your telephone book under “Sewer Contractors” or “Plumbing Drains & Sewer Cleaning”. If you plan to hire a contractor we recommend getting estimates from more than one company.

Dublin San Ramon Services District representative notes:

_____

_____

_____

Dublin San Ramon Services District Representative:

_____

For questions or comments, please call Dublin San Ramon Services District (925) 828-0515

For sewer emergencies at night and on weekends, please call (925) 462-1212 or 911

Dublin San Ramon Services District

On (date) _____, at (location) _____ , we responded to a reported blockage of the sanitary sewer service to your property.

We discovered a blockage in:

- o The District sanitary sewer and cleared the line
- o Your sanitary sewer lateral, which is your responsibility to maintain.

If you require assistance to clear your portion of the lateral you can look on the Internet or in the Yellow Pages of your telephone book under “Sewer Contractors” or “Plumbing Drains & Sewer Cleaning”. If you plan to hire a contractor we recommend getting estimates from more than one company.

Dublin San Ramon Services District representative notes:

_____

_____

_____

Dublin San Ramon Services District Representative:

_____

For questions or comments, please call Dublin San Ramon Services District (925) 828-0515

For sewer emergencies at night and on weekends, please call (925) 462-1212 or 911

Appendix C

FIELD SAMPLING KIT

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Field Sampling Kit
Table of Contents

Go to Water Quality Sampling Area and get the following supplies:

- Cooler with Blue Ice Pack
- Gloves
- Safety Glasses
- Two (2) 1-Liter Plastic Sampling Bottles
- Sample Bottle Labels
- Waterproof Pen
- Four (4) Total/Fecal Coliform Sample Bottles (100ml sterilized bottle)
- Chain of Custody Form

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Sanitary Sewer Overflows (SSOs)/LAVWMA Effluent or Secondary Treated Effluent or Tertiary Treated Effluent Spills or Leaks to Creeks or any Water Body
Standard **O**perating **P**rocedures on Sampling and Analysis

1. Collect upstream (75-100 ft. or the best possible above the point of discharge), the point of discharge, and downstream (75-100 ft. or the best possible below the point of discharge) samples and analyze in the **field** for the following tests:
   a) Chlorine residual
   b) Dissolved Oxygen (DO)
   c) pH
   d) Temperature

2. Collect **at least 1 liter** each from each sample point described above and a **separate** bacteriological sample using a sterilized bacteriological sample container from each sample point and bring them to the DSRSD laboratory. Complete Chain of Custody forms for each sample point and record field readings/analysis. Refrigerate upon arrival in the laboratory.

   Inform the lab personnel to make sure that preservatives are added by lab staff if needed and to ensure meeting holding times of samples. During off-hours, please contact the lab supervisor.

3. The laboratory staff will analyze for the following tests:
   a) Ammonia
   b) Biochemical Oxygen Demand (BOD)
   c) Chemical Oxygen Demand (COD)
   d) Conductivity
   e) Fecal Coliform and Enterrococcus
   f) Total Suspended Solids (TSS)
   g) Turbidity

Note: Holding times for samples:

Test	Holding Time
Ammonia	28 days
*COD/BOD	48 hours
Conductivity	28 days
Fecal Coliform & Enterococcus	6 hours
Total Suspended Solids	7 days
Turbidity	48 hours

*COD test must be run prior to BOD set up.

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DUBLIN SAN RAMON SERVICES DISTRICT
7399 Johnson Drive, Pleasanton CA 94588
Phone: (925) 846-4565 Fax (925) 846-2937

CHAIN OF CUSTODY – Leaks / Spills

Company:	Contact:	P.O. Number:
Address:		Sample Number:
Sampling Location:	Sampling Date/Time:	
Sample Split:	Split Portion Received By/Company:	Sample Collector:

REQUIRED ANALYSIS	Analyzed Date	Analyzed Time	Result		
☐ pH – Field					
☐ Chlorine Residual – Field					
☐ Dissolved Oxygen – Field					
☐ Temperature – Field					
☐ Conductivity – Field					
☐ Ammonia – Lab					
☐ COD – Lab					
☐ BOD – Lab					
☐ Fecal Coliform – Lab					
☐ Enterococcus – Lab					
☐ Total Suspended Solids – Lab					
☐ Others:					
☐ Others:					

# OF BOTTLES TO LAB	SAMPLES COOLED TO 4°C YES NO	SAFETY PRECAUTIONS USED DURING SAMPLING:	
RELINQUISHED BY/COMPANY:	DATE:	TIME:	RECEIVED BY/COMPANY:
RELINQUISHED BY/COMPANY:	DATE:	TIME:	RECEIVED BY/COMPANY:
RELINQUISHED BY/COMPANY:	DATE:	TIME:	RECEIVED BY/COMPANY:
COMMENTS:			

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Appendix D

CONTRACTOR ORIENTATION

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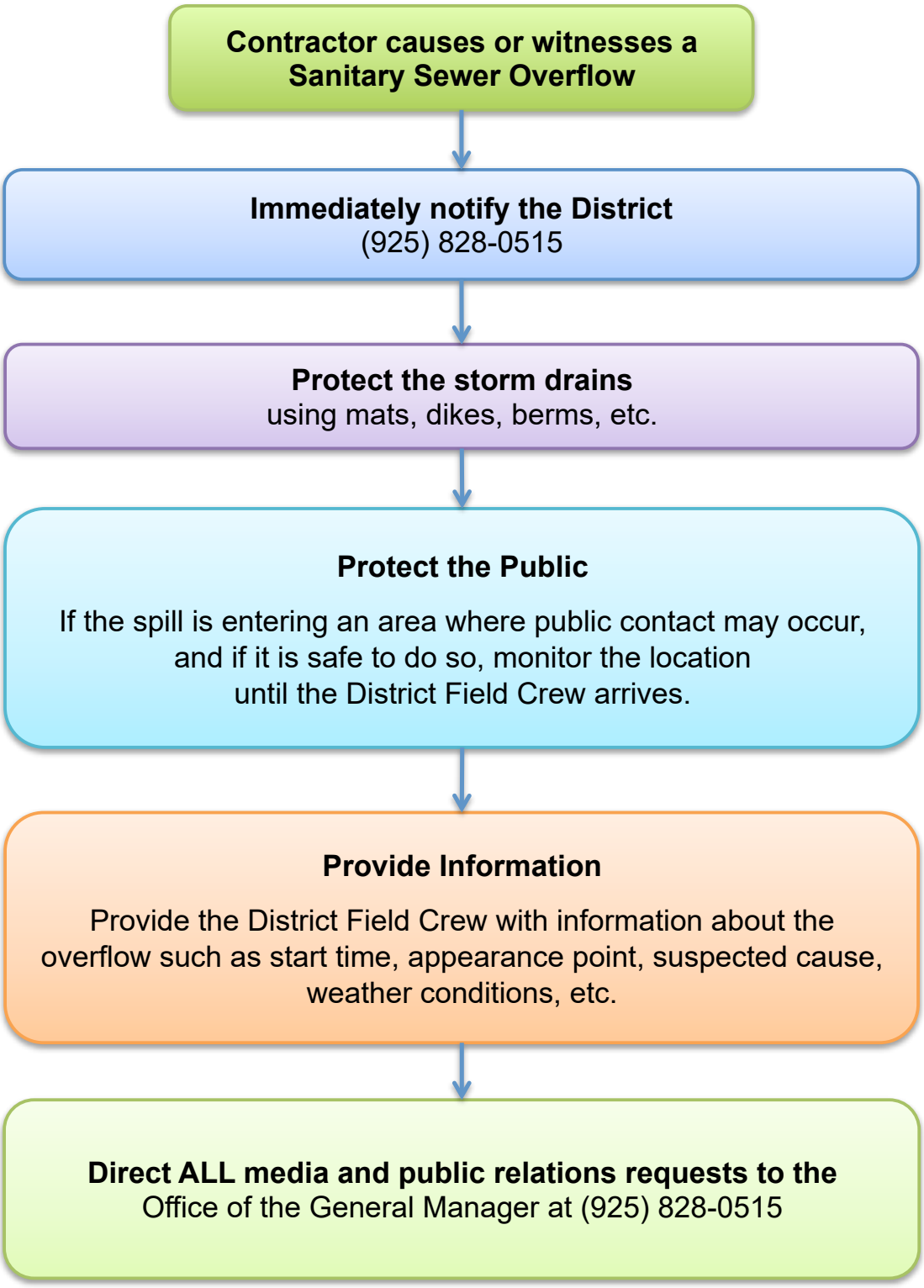
CONTRACTOR ORIENTATION

The following procedures are to be followed in the event that you cause or witness a Sanitary Sewer Overflow.



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Sanitary Sewer Overflows

How to avoid them and what to do if you don't

What? A sanitary sewer overflow (SSO) is a discharge of untreated human and industrial waste before it reaches the wastewater treatment facility.

Where? SSOs usually occur through manholes, plumbing fixtures and service cleanouts.

Why? SSOs are usually caused by grease, debris, root balls, or personal hygiene products blocking the sewer lines, or by unusually high flow volume.

How to prevent SSOs:

…when clearing plugged sewer laterals:

- Remove root balls, grease blockages and any other debris from the sewer
- If you can't prevent root balls, grease or debris from entering the sewer main, call us at (925) 828-0515, so we can work with you to remove the blockage and prevent blockages further downstream
- Use plenty of water to flush lines.

…when constructing or repairing sewer laterals:

- Refer to the District website for standard design criteria and permit requirements. Go to www.dsrsd.com.
- Check your work area. Make sure there is no debris left in the sewer line before you backfill.
- Avoid offset joints, which may make sewer lines vulnerable to root intrusion and grease or debris accumulation. Properly bed your joints and don't hammer tap.

If you cause or witness an SSO, immediately contact:

Dublin San Ramon Services District

(925) 828-0515

Dublin San Ramon Services District

7051 Dublin Boulevard
Dublin, CA 94568

www.dsrsd.com

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* Add Dan Martin's Information

PROCEDURES FOR REPORTING SPILLS

Revised December 10, 2018

(Update: new recycled water spill reporting procedures, updated contacts info, new attachments)

Dan Martin
925-875-2367

Whoever receives notification that a spill has occurred or is in progress must immediately contact the District's designated person responsible for reporting spills. The designated person for reporting spills and their backups are as follows:

Levi Fuller	Primary person responsible for reporting spills and SSO's
Jeff Carson	Backup for reporting spills if Levi Fuller is not available
Senior Wastewater Operator on-duty	Backup for reporting spills if Levi Fuller and Jeff Carson are not available

Provide the following information when notifying agencies:

a. Date and time the spill began and ended
b. Location of the spill
c. If the spill entered a storm drain or receiving water
d. Estimated volume of the spill or flow if the spill is ongoing
e. Estimated time of repair
f. Cause of the spill
g. Agencies involved with the response actions
h. Corrective actions taken or plans for corrective action
i. Whether adverse impacts related to the spill were observed such as excessive sedimentation or a fish kill.

SSO 1,000 gallons or more that escapes to a stream or surface waters (Category 1)

1. Notify **CAL OES** at 800-852-7550 ***within 2 hours of confirming*** that the spill is sewage from a District sewer and that the spill has reached surface waters or is likely to reach surface waters. Write down the tracking control number that OES gives you. CAL OES will automatically notify the RWQCB and the local health department.
2. If the spill is estimated to be 50,000 gallons or more to surface waters, water quality sampling is required. Call Environmental Compliance and ask for assistance collecting samples and photos (Kapil 925-570-6886, or cell 510-449-4745, or home 925-867-4475).
3. Keep records or notes of how the spill volume was estimated. See attached *Volume Estimated Method*.
4. Notify Levi Fuller at 925-875-2300 or 925-570-8775 cell or 707-552-4094 home. If you cannot reach Levi, contact Jeff Carson at 925-875-2345 work or 925-719-2997 cell or 510-798-6784 personal cell. If you cannot reach Levi or Jeff, contact the Senior Operator on duty via the Odor Hotline 925-519-0557 and ask the Senior Operator to report the spill using CIWQS. If you were unable to reach Jeff, call Dan McIntyre at 925-875-2200 office or 925-719-4730 cell or 925-321-0655 personal cell.
5. Notify the Safety Officer at 925-875-2393 or 925-570-8996 cell. If you cannot reach the Safety Officer, contact the Safety Technician at 925-875-2395 or 925-570-4419 cell. If you cannot reach the Safety Officer or Safety Technician, contact the Safety Division Supervisor at 925-875-2359 or 925-570-8757 cell.
6. If the SSO results in sewage backed up into a home or business, within the first four hours notify Alan Dialon at Carl Warren & Company at 909-763-4320.
7. Call ACWD's Thomas Niesar at 510-668-6549 or cell 510-708-6392 and report the spill. If Thomas Niesar is unavailable call ACWD's Evan Buckland at 510-668-6539 and report the spill.
8. If the spill impacts a flood control channel, then also e-mail Zone 7 at spillnotice@zone7water.com
9. If the spill occurred in Dublin, call Dublin Public Works at 925-833-6630.
10. If the spill occurred in Pleasanton, call Pleasanton Public Works at 925-931-5538.
11. Report details concerning the spill to Michelle Gallardo on the next business day following the initial report of the spill. Michelle will follow up with Carl Warren & Company (CSRMA).
12. **Submit a draft SSO report in CIWQS**: prepare and submit an uncertified SSO report using CIWQS **within 3 business days** after becoming aware of the SSO.

13. **Certify the SSO report in CIWQS**: complete and certify the SSO report ***within 15 calendar days of the SSO end date***. The certified report must include detailed information about the spill.
14. **SSO Technical Report**: for any Category 1 event estimated to spill 50,000 gallons or more into surface waters a Technical Report must be prepared and submitted in CIWQS ***within 45 days of the SSO end date***.

SSO less than 1,000 gallons that escapes to a stream or surface waters (Category 1)

1. Notify Levi Fuller at 925-875-2300 or 925-570-8775 cell or 707-552-4094 home. If you cannot reach Levi, contact Jeff Carson at 925-875-2345 or 925-719-2997 cell or 510-798-6784 personal cell. If you cannot reach Levi or Jeff, contact the Senior Operator on duty via the Odor Hotline 925-519-0557 and ask the Senior Operator to report the spill using CIWQS.
2. Notify the Safety Officer at 925-875-2393 or 925-570-8996 cell. If you cannot reach the Safety Officer, contact the Safety Technician at 925-875-2395 or 925-570-4419 cell. If you cannot reach the Safety Officer or the Safety Technician, contact the Safety Division Supervisor at 925-875-2359, or 925-570-8757 cell.
3. If the SSO results in sewage backed up into a home or business, within the first four hours notify Alan Dialon at Carl Warren & Company at 909-763-4320.
4. Keep records or notes of how the spill volume was estimated. See Attachment A – *Volume Estimated Method.*
5. Report details concerning the spill to Michelle Gallardo on the next business day following the initial report of the spill. Michelle will follow up with Carl Warren & Company (CSRMA).
6. **Submit a draft SSO report in CIWQS**: prepare and submit an uncertified SSO report using CIWQS **within 3 business days** after becoming aware of the SSO.
7. **Certify the SSO report in CIWQS**: complete and certify the SSO report ***within 15 calendar days of the SSO end date***. The certified report must include detailed information about the spill.

SSO 1,000 gallon spill or more that does not reach surface waters or that is 100% captured, (Category 2)

1. Notify Levi Fuller at 925-875-2300 or 925-570-8775 cell or 707-552-4094 home. If you cannot reach Levi, contact Jeff Carson at 925-875-2345 or 925-719-2997 cell or 510-798-6784 personal cell.
2. Notify the Safety Officer at 925-875-2393 or 925-570-8996 cell. If you cannot reach the Safety Officer, contact the Safety Technician at 925-875-2395 or 925-570-4419 cell. If you cannot reach the Safety Officer or the Safety Technician, contact the Safety Division Supervisor at 925-875-2359, or 925-570-8757 cell.
3. If the SSO results in sewage backed up into a home or business, within the first four hours notify Alan Dialon at Carl Warren & Company at 909-763-4320.
4. Keep records or notes of how the spill volume was estimated. See attached *Volume Estimated Method.*
5. If the spill occurred in Alameda County, especially for larger spills, you may want to call Alameda County Environmental Health at 510-567-6736.
6. If the spill occurred in Contra Costa County, especially for larger spills, you may want to call Contra Costa County Environmental Health at 925-692-2500.
7. If the spill occurred in Dublin, especially for larger spills, call Dublin Public Works at 925-833-6630.
8. If the spill occurred in Pleasanton, especially for larger spills, call Pleasanton Public Works at 925-931-5538.
9. Report details concerning the spill to Michelle Gallardo on the next business day following the initial report of the spill. Michelle will follow up with Carl Warren & Company (CSRMA).
10. **Submit a draft SSO report in CIWQS**: prepare and submit an uncertified SSO report using CIWQS **within 3 business days** after becoming aware of the SSO.
11. **Certify the SSO report in CIWQS**: complete and certify the SSO report ***within 15 calendar days of the SSO end date***. The certified report must include detailed information about the spill.

PROCEDURES FOR REPORTING SPILLS

Revised December 10, 2018

SSO spills less than 1,000 gallons from the District sewer system that do not reach surface waters (Category 3)

1. Notify Levi Fuller at 925-875-2300 or 925-570-8775 cell or 707-552-4094 home. If you cannot reach Levi, contact Jeff Carson at 925-875-2345 or 925-719-2997 cell or 510-798-6784 personal cell.
2. Notify the Safety Officer at 925-875-2393 or 925-570-8996 cell. If you cannot reach the Safety Officer, contact the Safety Technician at 925-875-2395 or 925-570-4419 cell. If you cannot reach the Safety Officer or the Safety Technician, contact the Safety Division Supervisor at 925-875-2359 or 925-570-8757 cell.
3. If the SSO results in sewage backed up into a home or business, within the first four hours notify Alan Dialon at Carl Warren & Company at 909-763-4320.
4. Keep records or notes of how the spill volume was estimated. See attached *Volume Estimated Method*.
5. Report details concerning the spill to Michelle Gallardo on the next business day following the initial report of the spill. Michelle will follow up with Carl Warren & Company (CSRMA).
6. **SSO report in CIWQS**: prepare, submit, and certify an SSO report ***within 30 calendar days of the end of the month in which the SSO occurred***. The certified report must include detailed information about the spill.

Private sewer lateral spills and overflows, any size, residential or business

1. Provide the property owner or the business manager with a copy of the **CSRMA instructions** attached for reporting private sewer spills, and tell the responsible party that notification and reporting are required by State law.
2. If DSRSD staff respond to the private lateral spill to mitigate the overflow and/or perform clean-up work, notify the Safety Officer at 925-875-2393 or 925-570-8996 cell. If you cannot reach the Safety Officer, contact the Safety Technician at 925-875-2395 or 925-570-4419 cell. If you cannot reach the Safety Officer or Safety Technician, contact the Safety Division Supervisor at 925-875-2359 or 925-570-8757 cell.
3. Spills of 1,000 gallons or more to surface waters should be reported by District staff to Cal OES if possible, or if it appears unlikely that the private owner will report the spill. If so, contact **CAL OES** at 800-852-7550.
4. If the spill occurred in Dublin, call Dublin Public Works at 925-833-6630.
5. If the spill occurred in Pleasanton, call Pleasanton Public Works at 925-931-5538.
6. **If deemed appropriate, private sewer lateral spills should be reported by the District in CIWQS.** Certification of reports of private sewer lateral spills is not required.
7. Report details concerning the spill to CSRMA by contacting Michelle Gallardo on the next business day following the initial report of the spill.

Partially treated wastewater or sludge spill with discharge to surface waters, 1,000 gallons or more

1. Call CAL OES at 800-852-7550 ***within 2 hours*** of first learning about the spill, and obtain and write down the tracking control number they give you. CAL OES will automatically notify the RWQCB and the local health department.
2. Call Environmental Compliance and ask for assistance collecting samples and photos (Kapil 925-570-6886 or cell 510-449-4745 or home 925-867-4475).
3. Notify Levi Fuller at 925-875-2300 or 925-570-8775 cell or 707-552-4094 home. If you cannot reach Levi, contact Jeff Carson at 925-875-2345 work or 925-719-2997 cell or 510-798-6784 personal cell. If you were unable to reach Jeff, call Dan McIntyre at 925-875-2200 office or 925-719-4730 cell or 925-321-0655 personal cell.
4. Notify the Safety Officer at 925-875-2393 or 925-570-8996 cell. If you cannot reach the Safety Officer, contact the Safety Technician at 925-875-2395 or 925-570-4419 cell. If you cannot reach the Safety Officer or Safety Technician, contact the Safety Division Supervisor at 925-875-2359 or 925-570-8757 cell.
5. Call ACWD's Thomas Niesar at 510-668-6549 or cell 510-708-6392 and report the spill. If Thomas Niesar is unavailable call ACWD's Evan Buckland at 510-668-6539 and report the spill.

6. If the spill impacts a flood control channel, then e-mail Zone 7 at spillnotice@zone7water.com
7. Call Pleasanton Public Works at 925-931-5538.
8. Report details concerning the spill to CSRMA by contacting Michelle Gallardo on the next business day following the initial report of the spill.
9. Prepare and submit to the RWQCB a full written report of the spill **within 5 business days**. The report should be directed to the RWQCB's **James Parrish,** Case Worker, James.Parrish@waterboards.ca.gov or (510) 622-2381.

Partially treated wastewater or sludge spill with no discharge to surface waters, 1,000 gallons or more

1. Call the RWQCB spill hotline at 510-622-2369 **as soon as possible** about the spill, and/or contact the RWQCB's Case Worker **James Parrish,** James.Parrish@waterboards.ca.gov or (510) 622-2381.
2. Notify Levi Fuller at 925-875-2300 or 925-570-8775 cell or 707-552-4094 home. If you cannot reach Levi, contact Jeff Carson at 925-875-2345 work or 925-719-2997 cell or 510-798-6784 personal cell.
3. Notify the Safety Officer at 925-875-2393 or 925-570-8996 cell. If you cannot reach the Safety Officer, contact the Safety Technician at 925-875-2395 or 925-570-4419 cell. If you cannot reach the Safety Officer or Safety Technician, contact the Safety Division Supervisor at 925-875-2359 or 925-570-8757 cell.
4. If the spill occurred in Alameda County, call Alameda Co Env Health at 510-567-6736.
5. If the spill occurred in Contra Costa County, call Contra Costa Co Env Health at 925-692-2500 during business hours, or 925-383-5445 after hours.
6. Call ACWD's Thomas Niesar at 510-668-6549 or cell 510-708-6392 and report the spill. If Thomas Niesar is unavailable call ACWD's Evan Buckland at 510-668-6539 and report the spill.
7. Call Pleasanton Public Works at 925-931-5538.
8. Report details concerning the spill to CSRMA by contacting Michelle Gallardo on the next business day following the initial report of the spill.
9. Prepare and submit to the RWQCB a full written report of the spill **within 5 business days**. The report should be directed to the RWQCB's **James Parrish,** Case Worker, James.Parrish@waterboards.ca.gov or (510) 622-2381.

Recycled water spill of 50,000 gallons or more (secondary effluent, 3W, or DERWA)

1. Call CAL OES at 800-852-7550 **as soon as possible** about the spill, and obtain and write down the tracking control number they give you. CAL OES will automatically notify the RWQCB and the local health department.
2. Call Environmental Compliance and ask for assistance collecting samples and photos (Kapil 925-570-6886, or cell 510-449-4745, or home 925-867-4475).
3. For spills of recycled water greater than 50,000 gallons that have **not been dechlorinated** and that **discharge to a surface waterbody**, water quality samples shall be collected as follows:
   a. Use a field water quality meter/sensor to measure pH, dissolved oxygen, temperature, and conductivity at each sample location. Confirm with Regional Water Board staff the sampling locations but a minimum, (a) upstream of the point of discharge, (b) at the point of discharge, and (c) prior to confluence with another surface waterbody if encountered up to 0.5 mile downstream of the spill location.
   b. Collect a water quality sample for chlorine residual analysis at each location.
4. Call ACWD's Thomas Niesar at 510-668-6549 or cell 510-708-6392 and report the spill. If Thomas Niesar is unavailable call ACWD's Evan Buckland at 510-668-6539 and report the spill.
5. If the spill impacts a flood control channel, then e-mail Zone 7 at spillnotice@zone7water.com
6. If the spill occurred in Dublin, call Dublin Public Works at 925-833-6630.
7. If the spill occurred in Pleasanton, call Pleasanton Public Works at 925-931-5538.

8. Notify Levi Fuller at 925-875-2300 or 925-570-8775 cell or 707-552-4094 home. If you cannot reach Levi, contact Jeff Carson at 925-875-2345 work or 925-719-2997 cell or 510-798-6784 personal cell. If you were unable to reach Jeff, call Dan McIntyre at 925-875-2200 office or 925-719-4730 cell or 925-321-0655 personal cell.
9. Notify the Safety Officer at 925-875-2393 or 925-570-8996 cell. If you cannot reach the Safety Officer, contact the Safety Technician at 925-875-2395 or 925-570-4419 cell. If you cannot reach the Safety Officer or Safety Technician, contact the Safety Division Supervisor at 925-875-2359 or 925-570-8757 cell.
10. As soon as emergency response measures are completed, but **no later than 24 hours** after the discharge, notify the San Francisco Bay RWQCB and the Division of Drinking Water **via email** addresses listed below:
    - **San Francisco Bay RWQCB** 510- 622-2390 or 510- 622-2305
      Melissa Gunter melissa.gunter@waterboards.ca.gov
      Blair Allen blaire.allen@waterboards.ca.gov
    - **San Francisco Bay RWQCB Spill Line** 510-622-2369, email RB2spillreports@waterboards.ca.gov
    - **State Water Resources Control Board Division of Drinking Water** 510-620-3454
      District 04 Contact: Marco Pacheco marco.pacheco@waterboards.ca.gov
11. Notify the Regional Water Board Spill Line via phone 510-622-2369 or email RB2spillreports@waterboards.ca.gov.
12. Provide written confirmation **via email** to the Regional Water Board and the Division of Drinking Water (listed above) **within 15 calendar days** from the date of notification using the form attached or by providing similar information in a letter or memo.
13. Prepare and submit to the RWQCB a full written report of the spill **within 15 calendar days**. The report should be directed to the RWQCB's **James Parrish,** Case Worker, James.Parrish@waterboards.ca.gov or (510) 622-2381.

Recycled water **for any spills (secondary effluent, 3W, or DERWA) that discharge to a surface waterbody, drainage ditch, or storm drain**

1. Notify Levi Fuller at 925-875-2300 or 925-570-8775 cell or 707-552-4094 home. If you cannot reach Levi, contact Jeff Carson at 925-875-2345 work or 925-719-2997 cell or 510-798-6784 personal cell. If you were unable to reach Jeff, call Dan McIntyre at 925-875-2200 office or 925-719-4730 cell or 925-321-0655 personal cell.
2. Notify the Safety Officer at 925-875-2393 or 925-570-8996 cell. If you cannot reach the Safety Officer, contact the Safety Technician at 925-875-2395 or 925-570-4419 cell. If you cannot reach the Safety Officer or Safety Technician, contact the Safety Division Supervisor at 925-875-2359 or 925-570-8757 cell
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      Melissa Gunter melissa.gunter@waterboards.ca.gov
      Blair Allen blaire.allen@waterboards.ca.gov
    - **San Francisco Bay RWQCB Spill Line** 510-622-2369, email RB2spillreports@waterboards.ca.gov
    - **State Water Resources Control Board Division of Drinking Water** 510-620-3454
      District 04 Contact: Marco Pacheco marco.pacheco@waterboards.ca.gov
4. Notify the Regional Water Board Spill Line via phone 510-622-2369 or email RB2spillreports@waterboards.ca.gov. Water Board staff may advise us to contact the California Office of Emergency Services at 800-852-7550 or 916-845-8911.
5. Provide written confirmation **via email** to the Regional Water Board and the Division of Drinking Water (listed above) **within 15 calendar days** from the date of notification using the form attached or by providing similar information in a letter or memo.
6. Include pertinent information with the next monthly eSMR.

SSO Reporting and Certification using CIWQS

1. Reports must be filed using CIWQS at the following web address: http://ciwqs.waterboards.ca.gov/
2. If the CIWQS website is down, reports must be faxed to CIWQS at 510-622-2460 containing all of the same on-line information.
3. To access CIWQS, first you will need to login by entering a CIWQS **user name** and **password**. If you do not have a CIWQS user name and password, you will need to complete and submit an application. Note that applications must be submitted during normal working hours, and actual approval for access to CIWQS may take a day or more to obtain.
4. Applications can be found at http://www.waterboards.ca.gov/water_issues/programs/ciwqs/chc_sso.shtml
5. Login on at http://ciwqs.waterboards.ca.gov/ then select SSO-Sanitary Sewer Overflows then select either Reporting New SSO or Modifying Existing SSO and fill in the appropriate information.
6. Detailed information on SSO reporting and requirements can be found at: http://www.waterboards.ca.gov/water_issues/programs/sso/docs/discharger_workbook.pdf

For convenience, you may want to print a copy of these instructions and keep them in a safe place, along with your personal CIWQS user name and password.

_____ _____

User Name Password

Dublin Lift Station – Emergency Response – Checklist

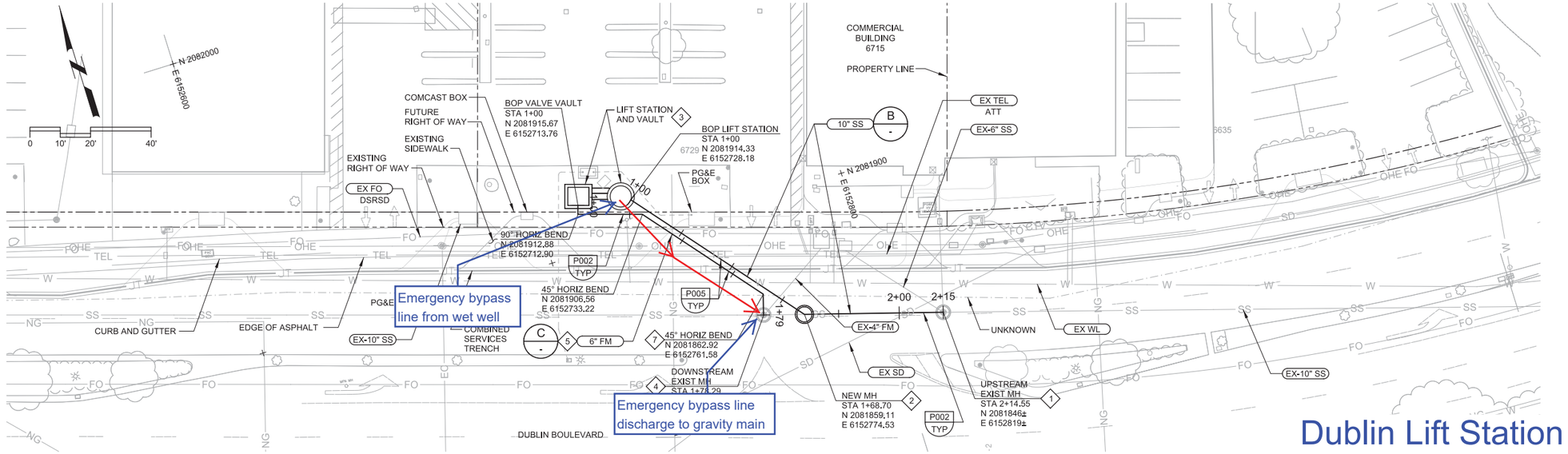
Portable Generator

- Pick up Truck w/ Pintal Hitch
- Portable generator – stored @ PS 10A
- Fuel for Generator
- Safety Traffic Cones or Delineators
- Barricades to close off driveway if needed or requested
- Lock out Tag out instructions – Stored in RTU panel on site
- Caution tape

By Pass Pumping

- Pick up Truck w/ Pintal Hitch
- Trailer Mounted Gruman Rump Pump– Stored @ WWTP – Maintenance
- Fuel for Pump
- Suction & Discharge Hose – Stored @ WWTP - Maintenance
- Safety Traffic Cones
- Road Lane closure signs
- Barricades to close driveway access
- Caution tape

Plot Date: 28-APR-2017 10:50:12 AM
User: Alaico
Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 2:1
LAST SAVED BY: Alaico



PLAN

SCALE: 1"=20'
FILE: 9230F10_01C100

Dublin Lift Station
Emergency Bypass Diagram

NOTES

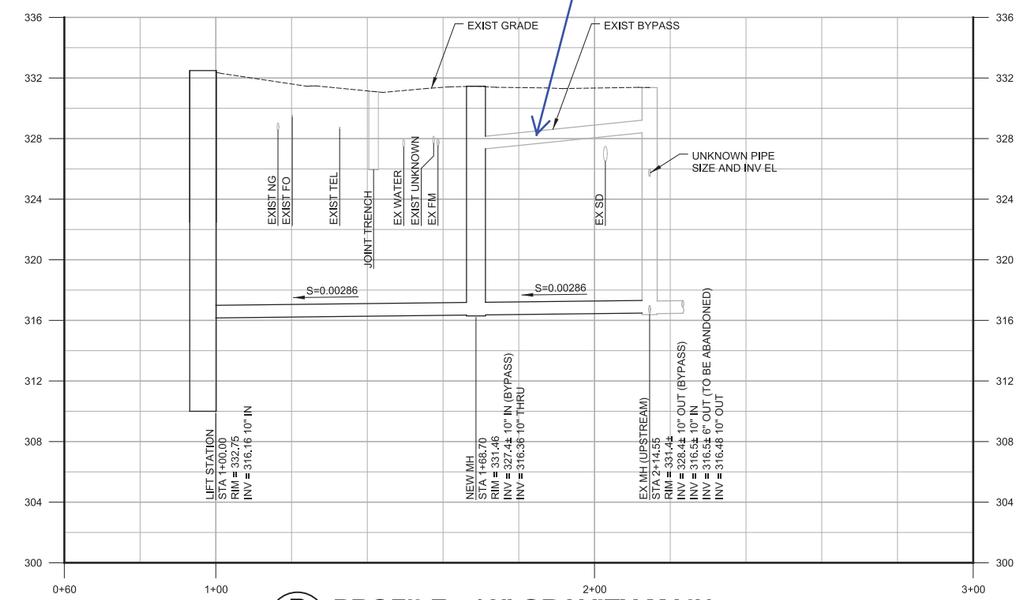
GENERAL NOTES:

1. SEE DRAWING D01 FOR DEMOLITION PLAN.

KEY NOTES:

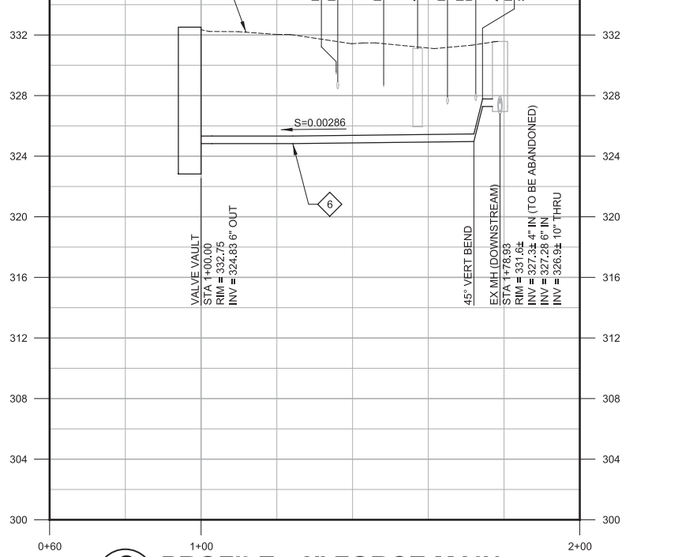
1. SEE DRAWING C05 FOR DETAILS.
2. SEE DRAWING C06 FOR DETAILS.
3. SEE DRAWINGS C03 AND C04 FOR DETAILS.
4. SEE DRAWING C07 FOR DETAILS.
5. ALL DIRECTIONAL CHANGES IN FORCE MAIN TO BE MECHANICALLY RESTRAINED JOINTS 3 FEET EITHER SIDE OF THE DIRECTIONAL CHANGE.
6. FORCE MAIN TO BE CONSTRUCTED SUCH THAT A CONTINUOUS RISE IN PIPE IS MAINTAINED FROM VALVE VAULT TO MANHOLE DISCHARGE.
7. CONTRACTOR SHALL MAKE JOINT DEFLECTIONS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AS REQUIRED TO MEET HORIZONTAL ALIGNMENT.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-227-2600



B - PROFILE - 10" GRAVITY MAIN

HORIZ SCALE: 1"=20'
VERT SCALE: 1"=5'
FILE: 9230F10_01C100



C - PROFILE - 6" FORCE MAIN

HORIZ SCALE: 1"=20'
VERT SCALE: 1"=5'
FILE: 9230F10_01C100

SCALE

HORIZONTAL
0 10' 20' 40'
VERTICAL
0 2.5' 5' 10'

carollo®

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN		REVIEW	
	DRAWN BY BWH/AL		PLNNG./DEVL. -
	DESIGN BY MPL		FIELD OPS. CB
	CHECKED BY PVF		WWTP OPS. -
RECOM'D	PROJ. MGR. RP		MECH./MAINT. DL
	JUDY ZAVADIL, DSRSD PRINCIPAL ENGINEER		ELECT./INSTR. MA
			SCALE: AS NOTED DATE: JAN 2017

** ORIGINAL SEALED BY PAUL V. FRIEDLANDER 01/23/17 CA 55565 **

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP
	CONFORMED DOCUMENTS				

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

LIFT STATION 1 (LS1) RELOCATION PROJECT

CIVIL
10" GRAVITY MAIN AND 6" FORCE MAIN PLAN AND PROFILES

CIP NO. 16-A002

C02
13 38

PROJECT NO. 9230F.10 FILE NAME: 9230F10C02.dgn

ATTACHMENT C

Tri-Valley Intergovernmental Reciprocal Services Agreement

A14-26

#40642
Res. 67-14
4/8/14

Tri-Valley Utility Coordination and Integration
Steering Committee

Tri-Valley Intergovernmental Reciprocal Services Master Agreement

TRI-VALLEY INTERGOVERNMENTAL RECIPROCAL SERVICES MASTER AGREEMENT

This AGREEMENT ("AGREEMENT") establishes a Tri-Valley Intergovernmental Reciprocal Services Master Agreement to facilitate the process of contracting for services, or sharing resources, materials, personnel, and equipment between the signatory local or regional government entities, and, to the extent appropriate, private utilities for the purposes described herein. This AGREEMENT is made and entered into by and between the parties that are signatories to this AGREEMENT. The AGREEMENT was first approved on _____.

Recitals

WHEREAS, each of the initial parties to this AGREEMENT is a local or regional government entity functioning within the Tri-Valley Region,

WHEREAS, the parties recognize that this AGREEMENT may also be applicable to other local or regional government entities serving communities near the Tri-Valley Region; and

WHEREAS, the parties hereto recognize the value of using common resources effectively and find that promoting the coordination of interagency efforts in the Tri-Valley Region, or a larger regional area that could include local or regional government entities servicing nearby communities is in the public interest and for the common benefit of all; and

WHEREAS, the parties desire to enter into an AGREEMENT to efficiently coordinate interagency efforts to reduce costs, increase efficiency, or achieve higher quality work-product by providing services and resources to the other parties; and

WHEREAS, it is understood that the primary purpose of this AGREEMENT is to provide a structure for the successful and efficient coordination of utility and public works maintenance activities, sharing of resources and contracting for services described herein; and

WHEREAS, the parties understand that the AGREEMENT provides only a general framework to address the administration, liability and equitable apportionment of the cost of services provided by one party to the other, with more specific terms and conditions contained in written Task Orders negotiated between the individual parties for sharing resources or contracting for services; and

WHEREAS, the parties do not intend to create a separate public agency pursuant to Government Code §6500 et seq. through this AGREEMENT and no provision of this AGREEMENT should be so construed; and

WHEREAS, the parties intend to directly contract with one another for services, supplies, equipment, or materials using the framework set forth in this agreement.

NOW, THEREFORE, the parties hereto do hereby enter into this AGREEMENT, as follows:

1. **Definitions**. As used in this AGREEMENT, the following words and phrases shall have the meanings set forth below unless the context clearly indicates otherwise.

a. "AGREEMENT" shall mean the Tri-Valley Intergovernmental Reciprocal Services Master Agreement.

b. "Member Agency" or "Member Agencies" or "Party" or "Parties" shall mean local or regional government entities that are signatories to this AGREEMENT.

c. "Task Order" shall mean a written agreement between two or more member agencies describing the services to be performed or resources to be shared between the agencies and the terms of the services or project, which may include but not be limited to compensation and payment, term or duration, required inspections, milestones, and insurance or indemnity requirements.

2. **Objectives**. Through this AGREEMENT, the Parties initially intend that this Agreement will enable willing Member Agencies to share among and between themselves resources that support local or regional government functions including, but not limited to utility and public works administrative and maintenance activities such as fleet or landscape maintenance; cleaning, televising and repairing subsurface pipelines; pavement marking or repairs; maintenance of water reservoirs and fire hydrants; custodial/janitorial services; purchasing equipment and/or supplies; and training, grant writing and sharing of equipment.

3. **Membership**

a. **Member Agency**. Any local and/or regional public agency that operates within or has jurisdiction over any area within the Tri-

Valley Region, or that operates within or has jurisdiction over areas immediately adjacent to the Tri-Valley Region or which is located within sufficient geographical proximity to provide efficient sharing of resources with agencies operating within the Tri-Valley may be a Member Agency under this AGREEMENT. Each Member Agency must be a signatory to this AGREEMENT. Other local or regional public agencies may become a Party to this Agreement by (i) passing a resolution of its governing body by which it agrees to comply with all the terms of this Agreement, (ii) executing the signature page attached hereto, and (iii) providing notice of these actions to the Member Agencies of the AGREEMENT. Acceptance or approval by the existing Parties is not needed for a new party to enter into this agreement.

b. **Initiation of Membership**. If an eligible agency as defined in Section 3 requests to enter this AGREEMENT as a new Member Agency, the new Member Agency is subject to all provisions of this AGREEMENT.

c. **Termination of Membership**. Any Member Agency may voluntarily terminate its membership in the AGREEMENT upon completion of all obligations and Task Orders entered into between it and the other member(s) and upon 90 days' notice to the Member Agencies, if any. Except as specified in Section 11, a Member Agency's termination of membership shall have no effect on the

continuing effectiveness of the AGREEMENT among the remaining Member Agencies.

4. **Sharing Information Among Member Agencies.** Member Agencies shall, upon the request of another Member Agency, submit copies of Task Orders initiated under this AGREEMENT to the other Member Agency at mutually agreeable intervals.

5. **Task Orders**.

Implementation of interagency efforts shall be accomplished through Task Orders issued by one Member Agency to another Member Agency referencing the standard terms and conditions described in Exhibit B. The parties agree that the terms and conditions for compensation or payment from one Member Agency to another for sharing resources or providing services will be negotiated between the individual Member Agencies and contained in a Task Order. Said task orders are subject to the laws and purchasing authorities of each Member Agency. Task Orders shall be executed by the designated official or Chief Executive Officer of the respective Member Agency, or his or her authorized designee. The Task Orders shall be in substantially the same form as attached hereto as Exhibit A, and shall be specific to the coordinated effort or task.

6. **Hold Harmless and Indemnity:**

a. **Regarding the Performance of Services Under a Task Order.** Each Task Order issued under this AGREEMENT shall contain one or more provisions addressing the defense of and indemnity against loss,

liability, damage, cost and expense arising out of services received and furnished under a Task Order issued pursuant to this AGREEMENT. Unless the Task Order creates a different standard between those two parties, as provided in Subsection b., below, the provision(s) shall take the form(s) set forth in Section 9 of Exhibit B to the AGREEMENT.

b. **Alternative indemnification arrangements.** In Task Orders issued pursuant to this AGREEMENT, Member Agencies may agree between or among themselves to replace the defense and indemnity provisions set forth in Section 9 of Exhibit B to the AGREEMENT with alternative indemnification provisions specific to the subject matter of any particular Task Order or Task Orders.

7. **Inconsistent Terms Between AGREEMENT and Task Orders:** Member Agencies are encouraged to maintain consistency through the use of the Task Order form and standard terms and conditions found in Exhibits A and B. Nonetheless, the Parties recognize that the circumstances of the transaction being memorialized by a Task Order may require variations from those templates. Accordingly, the Member Agencies agree, that in the event that there are any conflicts between any provision of this AGREEMENT and the corresponding provision of any Task Order issued thereunder, the provision of the Task Order shall govern. Notwithstanding anything to the contrary, the preceding sentence shall not be construed to allow any Task Order to be executed without mutually agreeable provisions for defense of and indemnity against loss, liability, damage,

cost and expense including but not limited to reasonable attorney, consultant and expert fees, and court costs.

8. **Effective Date**. This AGREEMENT shall become effective when at least two (2) agencies have executed it.
9. **Term and Expiration**. This AGREEMENT shall remain in effect as long as at least two agencies remain as parties to the AGREEMENT. It shall expire when only one agency is a party.
10. **General Provisions**
    a. **Counterparts**. This AGREEMENT may be executed in counterparts and each of these executed counterparts shall have the same force and effect as an original instrument and as if all of the parties to the aggregate counterparts had signed the same instrument.
    b. **Notices**: Any notice required, or convenient to the performance, hereunder, shall be in writing and may be given to the parties by personal delivery, or by mail (first class or equivalent), postage prepaid.
    c. **Contact Information For Member Agencies**

       Upon joining, Member Agencies will provide contact information.
    d. **Modification**: This AGREEMENT may only be modified by written amendment or supplement approved and executed by the parties in the same manner as this AGREEMENT.
    e. **Waiver**: Failure of any party to insist upon the strict performance of any term or condition in this AGREEMENT or in any Task Order, no matter

how long the failure continues, is not a waiver of the term or condition by that party and does not bar the right of the party to subsequently demand strict performance. To be effective, a waiver must be in writing and signed by the non-breaching party.

f. **Severability:** If any term or provision of this AGREEMENT or any Task Order is deemed invalid or unenforceable by any court of final jurisdiction, it is the intent of the Parties that all other provisions shall be construed to remain fully valid, enforceable and binding on the parties.

g. **Governing Law:** This AGREEMENT and Task Orders shall be governed by, and will be interpreted in accordance with, the laws of the State of California.

IN WITNESS WHEREOF, the parties hereto have executed this AGREEMENT as set forth below.

CITY OF DUBLIN

By: _____

Print Name: CHRISTOPHER L. FOSS

Title: CITY MANAGER

Date: 10/21/14

CITY OF LIVERMORE

By: _____

Print Name: _____

Title: _____

Date: _____

CITY OF PLEASANTON

By: _____

Print Name: _____

Title: _____

Date: _____

CITY OF SAN RAMON

By: _____

Print Name: _____

Title: _____

Date: _____

DUBLIN SAN RAMON SERVICES DISTRICT

By: _____

Print Name: _____

Title: _____

Date: _____

ZONE 7 WATER AGENCY

By: _____

Print Name: _____

Title: _____

Date: _____

IN WITNESS WHEREOF, the parties hereto have executed this AGREEMENT as set forth below.

CITY OF DUBLIN

By: _____

Print Name: _____

Title: _____

Date: _____

CITY OF LIVERMORE

By: _____

Print Name: _____

Title: _____

Date: _____

CITY OF PLEASANTON

By: _____

Print Name: Nelson Fialho

Title: City Manager

Date: _____

Approved As To Form:

_____

CITY OF SAN RAMON

By: _____

Print Name: _____

Title: _____

Date: _____

DUBLIN SAN RAMON SERVICES DISTRICT

By: _____

Print Name: _____

Title: _____

Date: _____

ZONE 7 WATER AGENCY

By: _____

Print Name: _____

Title: _____

Date: _____

IN WITNESS WHEREOF, the parties hereto have executed this AGREEMENT as set forth below.

CITY OF DUBLIN

By: _____

Print Name: _____

Title: _____

Date: _____

CITY OF LIVERMORE

By: _____

Print Name: _____

Title: _____

Date: _____

CITY OF PLEASANTON

By: _____

Print Name: _____

Title: _____

Date: _____

CITY OF SAN RAMON

By: _____

Print Name: _____

Title: _____

Date: _____

DUBLIN SAN RAMON SERVICES DISTRICT

By: _____

Print Name: Bert Michalczyk

Title: General Manager

Date: November 3, 2014

ZONE 7 WATER AGENCY

By: _____

Print Name: _____

Title: _____

Date: _____

IN WITNESS WHEREOF, the parties hereto have executed this AGREEMENT as set forth below.

CITY OF DUBLIN

By: _____

Print Name: _____

Title: _____

Date: _____

CITY OF LIVERMORE

By: Marc Roberts

Print Name: Marc Roberts

Title: City Manager

Date: 12-4-14

APPROVED AS TO FORM:
Asst City Atty

CITY OF PLEASANTON

By: _____

Print Name: _____

Title: _____

Date: _____

CITY OF SAN RAMON

By: _____

Print Name: _____

Title: _____

Date: _____

DUBLIN SAN RAMON SERVICES DISTRICT

By: _____

Print Name: _____

Title: _____

Date: _____

ZONE 7 WATER AGENCY

By: _____

Print Name: _____

Title: _____

Date: _____

IN WITNESS WHEREOF, the parties hereto have executed this AGREEMENT as set forth below.

CITY OF DUBLIN

By: _____

Print Name: _____

Title: _____

Date: _____

CITY OF LIVERMORE

By: _____

Print Name: _____

Title: _____

Date: _____

CITY OF PLEASANTON

By: _____

Print Name: _____

Title: _____

Date: _____

CITY OF SAN RAMON

By: _____

Print Name: _____

Title: _____

Date: _____

DUBLIN SAN RAMON SERVICES DISTRICT

By: _____

Print Name: _____

Title: _____

Date: _____

ZONE 7 WATER AGENCY

By: _____

Print Name: G. F. Duerig

Title: General Manager

Date: 20 Oct 2014

IN WITNESS WHEREOF, the parties hereto have executed this AGREEMENT as set forth below.

_____	_____
By: _____	By: _____
Print Name: _____	Print Name: _____
Title: _____	Title: _____
Date: _____	Date: _____
_____	_____
By: _____	By: _____
Print Name: _____	Print Name: _____
Title: _____	Title: _____
Date: _____	Date: _____

Exhibit A

Task Order Template

Exhibit B

Standard Terms and Conditions

The parties agree that the following standard terms and conditions will be used in Task Orders initiated under this AGREEMENT. Member Agencies may include additional terms and conditions specific to the coordinated effort or may agree between or among themselves to modifications of these terms for any particular task order.

1. **Description of Activity or Services**. Each Task Order shall describe the specific activity, service or resource being shared or performed. The description should contain information on required inspection, testing or acceptance procedures, if any, as well as milestones or completion dates for the tasks to be completed.

   Compensation and Payment. The Task Order shall include the compensation and payment terms for the services or resources provided. It is anticipated that costs for services and sharing resources would be based on or related to the cost of providing the service or sharing the resource, however nothing in this section is intended to restrict Member Agencies from providing or accepting services based on factors other than the cost of providing the service.

2. **Term**. Task Orders shall specify the term of the activity, project, service or sharing of resources.

3. **Termination**. Unless a Task Order provides otherwise, a Member Agency

may terminate any portion or all of the services authorized under a Task Order by giving the other Member Agency or agencies party to the Task Order 30 calendar-days advance written notice. Upon receipt of a termination notice, Member Agencies shall immediately stop all work in progress on the services authorized under the Task Order, except where necessary to preserve the benefit of the work, and assemble the work for delivery to the other Member Agency on or about the termination date. All compensation for services performed prior to the termination dates shall be payable within 30 days to the Member Agency in accordance with the Compensation and Payment provisions of the specific Task Order.

4. **Insurance**. Task Orders shall include insurance provisions acceptable to each Member Agency that is a party to the specific Task Order, and consistent with the insurance underwriting and risk management principles of each participating Member Agency.
5. **Reference to Master Agreement**. Task Orders may incorporate by reference any condition in this AGREEMENT, or may include different conditions or requirements specific to the proposed work or services. Examples include, but are not limited to indemnification, insurance, waiver and severability. Conditions or requirements contained in Task Orders may be more or less restrictive than conditions, terms or requirements included in this AGREEMENT with consent of all parties to the individual Task Order;
6. **Non-Exclusive Agreement**. Task Orders shall include a statement that they are non-exclusive agreements, and that Member Agencies reserve the right

to provide, and to retain others to provide, services that are the same or similar to the services described in the Task Order.

7. **No Assignment**. Task Orders shall include the requirement that the Member Agency providing the service shall not assign or subcontract any of the services to non-public agency staff without the prior consent of the Member Agency receiving the service. Task Orders initiated to take advantage of coordinated purchasing or contracting arrangements where the service will be provided using outside contractors shall explicitly note that the service is being provided with contract or non-public agency resources to ensure appropriate competitive bidding procedures are followed.
8. **Dispute Resolution**. It the event of a dispute concerning the terms and conditions of this AGREEMENT or a Task Order initiated pursuant to this AGREEMENT the affected parties will negotiate and attempt to resolve the matter informally. Each party shall negotiate in good-faith by ensuring its representative is knowledgeable about the dispute, this AGREEMENT and any pertinent Task Order, and has the ability to either agree to a solution or has authority to make a direct recommendation to the party's decision makers who can approve a solution.
9. **Defense and Indemnity** Each Party to this Task Order shall defend, indemnify and hold each of the other parties to this AGREEMENT, and their respective elected officials, officers, directors, employees, agent, and designated volunteers harmless from and against any and all loss, liability, damage, cost and expense including but not limited to reasonable attorney,

consultant and expert fees, and court costs, to the extent caused by the indemnifying party's own negligence, recklessness, willful misconduct, or infringement of any patent, trademark, or copyright (or uncopyrighted composition, secret process, patented or unpatented invention, article or appliance furnished or used) in the performance of its services under a Task Order issued pursuant to this AGREEMENT. This indemnity shall not apply to liability for damages for death or bodily injury to persons, injury to property, or other loss arising from the sole misconduct, including active negligence, of the party receiving the service, or of another Party to this AGREEMENT, or their respective elected officials, officers, directors, employees, agents, and designated volunteers unless the Parties expressly so provide.

Acceptance of insurance certificates and endorsements required under this Task Order does not relieve a Member Agency from liability under this indemnification and hold harmless clause except to the extent payment is made under such policy or policies.

10. **Obligation to Correct Errors** In addition to the above indemnification obligations, a Member Agency providing services shall correct, at its own expense, all errors in the services provided measured against the terms of the Task Order under which services were provided. Should a Member Agency providing services fail to make such correction in a timely manner after being notified, the Member Agency contracting for the service shall make the correction and charge the cost thereof to the Member Agency responsible for providing the service.

ATTACHMENT D

Sewer System Major Equipment Inventory; Critical Sewer Replacement Parts Inventory; and Contact Information for Vendors and Contractors

Attachment D1. Sewer System Major Equipment Inventory	
Part ID	Description
109	Combination Truck, Vacuum and Jetter
110	Combination Truck, Vacuum and Jetter
82	CCTV Truck
510E	Gorman Rupp Pump Trailer
511E	Gorman Rupp Pump Trailer
512E	Gorman Rupp Pump Trailer
513E	Duetz Pump

Attachment D2. Critical Sewer System Replacement Parts Inventory	
Part ID	Description
TBD	Replacement Keen Pumps, Qty 2
TBD	Replacement Flygt Pumps, Qty 2
TBD	Pipe, by the foot
TBD	Couplings, various sizes
TBD	Manhole Covers
TBD	Manhole Rings

Attachment D3. Contact Information for Vendors and Contractors		
Vendors/Contractors	Name	Contact Numbers
Internet Service Provider	**T&T**	For Internet and VoIP: Mon.-Fri. 7 a.m. to 12 a.m. EST (877) 288-8362 Then select options: 1, 3, 1 DO Site: Asset Name: USCALNDBLCA01R Circuit ID: 86KQGN600728PT FOF Site: Asset Name: USCALNPLSCA01R Circuit ID: 86KQGN600726PT For Business Lines/POTS Repair: (800) 727-2273
Computer Equipment Vendor	**Dell Workstation** Customer #002026373 Ext Business Day Four Hour Service	(800) 456-3555 Customer Support
Fuel Supplier (backup generator)	**Hunts and Sons**	(707) 576-6042; (925) 755-3835
Supervisory Control and Data Acquisition (SCADA)	**Intellution iGlobalCare** Dave Pulice	(925) 570-4270 (cell) 1-800-GE-FANUC Business Hours (800) 876-5951 24 Hr. Emergencies
DSRSD Information Technology Services Division	**Information Services** Supervisor: Bob Treppa	(925) 570-8777 (cell)

ATTACHMENT E

Contractor Outreach Flyer

PLUMBERS AND SEWER CONTRACTORS

Your Actions Can Prevent Sanitary Sewer Overflows!

What are Sanitary Sewer Overflows or SSOs?

SSOs discharge untreated or partially treated human and industrial waste, debris and disease-causing organisms from the sanitary sewer onto the ground near and into homes and potentially into creeks, rivers, lakes or streams.

What are the impacts of SSOs?

SSOs may result in property damage, environmental damage and/or potential liability to you or your company. Allowing sewage to discharge to a gutter, storm drain or waterway may subject you to penalties and/or out-of-pocket costs to reimburse cities or public agencies for clean-up efforts and regulatory penalties.

How can you prevent SSOs?

and avoid associated penalties & fines

When clearing plugged sewer laterals:

- ☑ Whenever possible, remove root balls, grease blockages and any other debris; don't push debris from the lateral to the sewer main.
- ☑ If you can't prevent a root ball or other debris from entering the sewer main when working in our service area, please call us at (925) 828-0515, so we can work with you (free of charge) to remove the root ball from the sewer main to prevent blockages further downstream.
- ☑ Use plenty of water to flush lines.
- ☑ Don't open manholes. Hazardous sewer gases from manholes are odorless, undetectable and can be deadly. Call us to open manholes for you and please note that discharge into a publicly-owned manhole requires a permit. Contact our Source Control Section at (925) 875-2335, for an application.

When constructing sewer laterals:

- ☑ Check your work area. Gravel, backfill material and test plugs can become lodged in the sewer line and cause blockages. Make sure no debris is left in the sewer line before you backfill.
- ☑ Avoid offset joints – offset joints make sewer lines vulnerable to root intrusion & grease accumulation, cause debris hang-ups and make lines harder to clean. Properly bed your joints and don't hammer tap.
- ☑ In the Dublin San Ramon Services District service area, contact our Permit Counter for the appropriate construction specs at (925) 828-0515.

Check Our Web Site for More Info

Visit http://www.dsrsd.com/doing_business_with_dsrsd/standards_specs.html , under Drawings, click on Sewer Details, refer to Drawing S-8. If working on sewer laterals, plumbers/ contractors need to obtain a Limited Construction Permit at the Permit Counter at the District Office.

Who Do I Call to Avoid an SSO?

Help us help you…

If you require our free assistance to help clear root balls, grease blockages and other debris from a main sewer line to prevent an SSO or to open a manhole in our service area, please call us at: (925) 828-0515.

DUBLIN SAN RAMON SERVICES DISTRICT

Our Wastewater Service Area

Our customers are located in Dublin, Pleasanton, Southern San Ramon, and Dougherty Valley.

District offices are at: 7051 Dublin Blvd., Dublin, CA 94568, (925) 828-0515

www.dsrsd.com

In cooperation with BAPPG

Bay Area Clean Water Agencies
A Joint Powers Public Agency

ATTACHMENT F

Standard Procedures, Specifications and Drawings for Wastewater Utilities

DUBLIN SAN RAMON SERVICES DISTRICT

STANDARD PROCEDURES, SPECIFICATIONS AND DRAWINGS

FOR DESIGN AND INSTALLATION OF POTABLE WATER, RECYCLED WATER AND WASTEWATER UTILITIES

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SECTION I

GENERAL REQUIREMENTS

SECTION I

GENERAL REQUIREMENTS

SECTION I-A - INTRODUCTION

I-A1. SCOPE AND PURPOSE

The scope and purpose of these Standard Procedures, Specifications, and Drawings ("Standards") is to provide minimum requirements for the design, materials used, and methods of construction for the Dublin San Ramon Services District's ("District") potable water, recycled water, and sewer systems located within public and private properties. These Standards implement the rules and regulations in the District Code, Titles 3, Application for Services, 4, Water Service Delivery, and 5, Wastewater Service Delivery. The potable water system includes the installation of mains, service assemblies, hydrants, and valves. The recycled water system includes the installation of mains, service assemblies, and valves. The sewer system includes the installation of mains, service laterals, and manholes. These Standards also cover all other necessary appurtenances and, in general, any repairs, replacements, relocations, or any potable water, recycled water, or sewer work done either for the District or for others by separate contract.

Section I of the specification portion of these Standards covers all topics general to potable water, recycled water, and sewer systems including administrative procedures and policies, design, and construction standards. Section II applies only to potable water systems, and Section III exclusively covers sewerage system requirements. Section IV applies only to recycled water systems.

I-A2. DEFINITIONS

Whenever the following terms, or pronouns used in their place, occur in these documents or in any documents that these Design Criteria and Standards govern, the intent and meaning shall be interpreted as defined below:

"Acceptance": The formal action by the District General Manager accepting the dedication of completed facilities.

"Air-Gap Separation": A physical break between a supply pipe and a receiving vessel. The air gap shall be at least double the diameter of the supply pipe, measured vertically above the top rim of the vessel, and in no case less than one (1) inch.

"Applicant": An individual owner or owner's developer, builder, engineer, or other authorized representative who applies as the owner's official agent to the District for potable water, recycled water, or sewer service.

"Applicant's Engineer": The Engineer licensed by the State of California as a Civil Engineer, retained or employed by the Applicant, under whose direction plans, profiles, and details for the Work are prepared and submitted to the District for review and approval.

"Application Rate": The rate at which water is applied to an irrigation or construction area.

"Approved": Unless specifically otherwise indicated, this shall mean approval by the District Engineer.

"Approved Use Area": A site with well-defined boundaries that is designated to receive recycled water for an approved use and is in conformance with the regulations of all applicable regulatory agencies.

"Automatic System": Automatic controllers, valves, and associated equipment required for the programming of effective water application rates when using recycled water.

"Board": The Board of Directors of the Dublin San Ramon Services District.

"City": Either the City of Dublin or City of San Ramon, California, whichever applies.

"Color Codes": Colors specified by the District to differentiate various types of facilities (e.g. potable from recycled water systems).

"Contract": The agreement covering the performance of the Work and the furnishing of labor, materials, tools, and equipment in the construction of the Work. The contract may be in the form of the notice to contractors, proposal, plans, specifications, special provisions, contract or performance bonds, purchase orders, standard terms of conditions, work order forms, or a written agreement.

"Contractor": The person or persons, firm, partnership, corporation, or combination thereof, private or municipal, that entered into a contract with the Dublin San Ramon Services District, the Cities of Dublin or San Ramon, or the Counties of Alameda or Contra Costa, or the owner of private property doing his/her own Work on his/her private property only. For purposes of acceptance and guarantee, Contractor refers to the party that has posted the bonds. For purposes of construction, Contractor refers to any contractor licensed by the State of California to enter into contracts for and to perform the Work of installing, repairing, replacing, or relocating potable water, recycled water, or sewer facilities under District jurisdiction.

"County": Either the County of Alameda or County of Contra Costa, California, whichever applies.

"Cross Connection": An unprotected actual or potential connection between a potable water system used to supply water for drinking purposes and any source or system containing non-potable water or other substance. Bypass arrangements, jumper connections, removable

sections, swivel or changeover devices, or other devices through which backflow could occur, shall be considered to be cross connections.

"Customer": An owner, developer, builder, engineer, or other authorized representative who accepts responsibility for the customer facilities once they are constructed and accepted by the District.

"Customer Facilities": Recycled or potable water facilities downstream of the water meter that are owned and operated by the Customer. This also includes sewer facilities upstream of the connection to the District sewer main that are owned and operated by the Customer.

"Day": A calendar day of 24 hours.

"DIP": Ductile Iron Pipe

"District": The Dublin San Ramon Services District, its Board of Directors, authorized employees, and agents, a subdivision of the State of California, located in Alameda and Contra Costa Counties.

"District Engineer": The District Engineer of the Dublin San Ramon Services District or his/her authorized agent.

"District Facilities": Recycled or potable water facilities upstream of, and including, the water meter are owned and operated by the District. Sewer mains and appurtenances downstream of the connection to the District's sewer main are owned and operated by the District.

"Easement": A recorded document by which the land owner gives the District or the public permanent rights to construct, operate, and maintain a pipeline across private or other property.

"H.L.": Hydraulic Line

"HDPE": High Density Polyethylene

"House or Building Sewer": A sewer pipe on private property connecting a house or a building with the service lateral on public property at the property line.

"Improvement Plans": Drawings of all potable water, recycled water, and/or sewer mains, services, and appurtenances which are included under District jurisdiction for the proposed project. Prior to construction, the District Engineer must approve Improvement Plans.

"Infiltration Rate": The rate at which soil will accept water.

"Inspector": An employee or agent of the District engaged to observe and record field compliance with design criteria, plans, and construction standards.

"Lateral Sewer": The sewer pipe in a public street or easement connecting a house or building sewer to the District's main, owned and maintained by the owner of the property which it serves.

"Main": All potable water, recycled water, and sewer pipelines dedicated for public use in the District's system, excluding services and laterals.

"Marking Tape": Tape attached directly to a pipe for the purpose of identifying the pipe as carrying recycled or potable water.

"Offsite Recycled Water Facilities": Recycled water facilities upstream of, and including, the water meters, which are owned and operated by the District.

"Onsite Recycled Water Facilities": Recycled water facilities downstream of the water meter, which are owned and operated by the Customer.

"Over Spray": Recycled water that is transmitted through the air to a location other than for which the direct application of recycled water is intended.

"Owner": Any holder of legal title, contract purchaser or lessee of property for which service is requested from the District.

"Pantone": Color standard system.

"Ponding": Retention of piped recycled water on the surface of the ground or manmade surface for a period of time following the cessation of an approved recycled water use activity such that potential hazard to downstream water courses or the public health may result.

"Potable Water": Water that conforms to the latest edition of the United States Public Health Service Drinking Water Standards, the California Safe Drinking Water Act, and/or other applicable standards.

"Potable Water Service": The furnishing of potable water to an owner through a metered connection to customer facilities.

"PVC Pipe": Polyvinyl chloride pipe.

"Record Drawings": Drawings completed under the supervision of the Developer's Engineer that accurately show all customer and District potable water, recycled water, and sewage facilities as constructed or modified.

"Recycled Water": Water which, as a result of treatment of wastewater meeting the requirements of Title 22, Division 4, Chapter 3 of the California Code of Regulations, is suitable for outside landscape irrigation or other controlled use as approved by the District.

"Recycled Water Service": The furnishing of recycled water to an owner through a metered connection to customer facilities.

"Regulatory Agency": Those public agencies legally constituted by the State of California to protect health and water quality.

"Runoff": Flow of water along the surface of the ground or other natural or manmade surfaces including, but not limited to, pedestrian walkways, streets, playground surfaces, and grassy slopes or other landscaped areas.

"Sample Station": Service piping and appurtenances connected to a District potable water or recycled water main used to collect samples for water quality analysis.

"Sealing Water": Independent water supplies to pump seals, which provide sufficient sealing pressure and priming.

"Service Assembly": Potable and recycled water pipes and fittings between the District's main and the meter.

"Service Connection": The point of connection of the private property owner's water or recycled water piping to the District's meter.

"Service Line": The pipe and fittings between the District's main and the meter.

"Sewer": Sanitary sewer.

"Side Sewer": Includes both the lateral sewer and house or building sewer from the sewer main to the house or building piping; side sewer is owned and maintained by the owner of the property it serves.

"Specifications": The specifications and drawings contained herein and approved addenda, plus any other standard specifications incorporated by reference. In general, the referenced standards or specifications shall be understood as being the latest edition.

"Spray Irrigation": Application of water for irrigation by spraying.

"Standards": The specifications and drawings contained herein and approved addenda, plus any other standard specifications incorporated by reference. In general, the referenced standards or specifications shall be understood as being the latest edition.

"State": The State of California.

"Subcontractor": An individual, firm, or corporation having a direct contract with the Contractor or with any other subcontractor for the performance of a part of the Work at the site.

"Unauthorized Discharge": Any release of recycled water that violates the regulations of the District or any applicable Federal, State, or local statutes, regulations, ordinances, and contracts.

"Warning Tape": Tape that is laid a specified distance above a buried pipe, typically one (1) foot, for the purpose of warning that there is a buried pipeline below.

"Windblown Spray": Dispersed, airborne particles of recycled water transmitted through the air to a location other than that for which the direct application of recycled water is approved.

"Work": Any and all obligations, duties, and responsibilities necessary to the successful completion of the project assigned to or undertaken by a Contractor including all labor, materials, equipment, and other incidentals, and the furnishing thereof.

I-A3. ABBREVIATIONS

Whenever in these Standards the following abbreviations are used, they shall be defined as listed below:

AASHTO	American Association of State Highway and Transportation Officials
ABS	Acrylonitrile-Butadiene-Styrene
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
AWWA	American Water Works Association
CEQA	California Environmental Quality Act
CDF	Controlled Density Fill
CIOD	Cast Iron Outside Diameter
CPVC	Chemical-Resistant Polyvinyl Chloride
DIP	Ductile Iron Pipe
DIPRA	Ductile Iron Pipe Research Association
DOT	Department of Transportation
DR	Dimension Ratio
DSRSD	Dublin San Ramon Services District
DWG	Drawing
e.g.	For example
ES	Extra Strength
fps	feet per second
gpcd	gallons per capita per day
gpd	gallons per day
gpm	gallons per minute
HDPE	High Density Polyethylene
HL	Hub Lateral
NAD	North American Datum
NFPA	National Fire Protection Association
NPT	National Pipe Thread
NSF	National Sanitation Foundation

OD	Outside diameter
OSHA	Occupational Safety and Health Administration
PPI	Plastic Pipe Institute
ppm	parts per million
psi	pounds per square inch
psig	pounds per square inch gauge
PVC	Polyvinyl Chloride
RWQCB	Regional Water Quality Control Board
SC	Slow Cure asphalt
SDR	Standard Dimension Ratio
USA	Underground Services Alert
VCP	Vitrified Clay Pipe
WEF	Water Environment Federation

SECTION I-B - ADMINISTRATIVE REQUIREMENTS FOR APPLICANT-INITIATED PROJECTS

I-B1. RESPONSIBILITIES

The responsibilities of the District, Applicant, Applicant's Engineer, and Contractor with respect to administrative implementation of an applicant-initiated project are defined in the following subsections.

I-B1-1. District Responsibilities

The District shall be responsible for the review and approval of Improvement Plans and the inspection of all mains and services within the public right-of-way and the inspection of recycled water lines outside the public right-of-way for all Work. In addition, the District shall be responsible for the inspection of the house or building sewer to within two (2) feet from the house exterior wall or building face.

I-B1-2. Applicant Responsibilities

The Applicant shall have ultimate responsibility for compliance with all requirements specified in these Standards. The Applicant shall be directly responsible for all administrative requirements including application, submittal of all required Improvement Plans, bonds and insurance, and payment of fees. The Applicant shall also be responsible for performance of the Applicant's Engineer in meeting all design requirements and for the performance of the Contractor in meeting all construction-related requirements.

I-B1-3. Applicant's Engineer's Responsibilities

These Standards establish requirements for the design and construction of the District's potable water, recycled water and sewer systems. They are not intended to be a substitute for engineering knowledge, judgment, or experience. The standards presented herein shall be reviewed by the Applicant's Engineer and shall be applied as necessary to the project. Proposed deviations to these Standards shall be submitted, in writing, to the District Engineer.

It is also the Applicant's Engineer's responsibility to be aware of the District's master plans for potable water, recycled water, and sewer systems, and to provide a design that conforms to the District's master plans. Deviations from the District's master plans shall be submitted in writing to the District Engineer. Deviation from the District's master plans will necessitate verification by the Applicant's Engineer of the adequacy of existing potable water, recycled water, and sewer system capacity considering additional project flows.

All development project plans, specifications, reports, or other documents shall be prepared by a State of California registered civil engineer or by a subordinate employee under the direction of the State of California registered civil engineer. All documents shall be signed by a State of California registered civil engineer and stamped with the registered seal to indicate responsibility for them. A "Design Approved" stamp of the District on the Improvement Plans does not in any

way relieve the Applicant's Engineer of the responsibility to adhere to the standards generally prevailing for the performance of expert professional engineering services, exercise the same degree of care, skill, and diligence in the performance of the services as is ordinarily provided by a professional engineer under similar circumstances, and meet all requirements of the District. The Improvement Plans shall be revised or supplemented at any time it is determined that the District's requirements have not been met.

All design changes and change orders shall be submitted to the District for review. Change orders shall be signed and stamped by the Applicant's Engineer. Major changes, as determined by the Inspector, are subject to review and approval by the District Engineer.

In conformance with the California Environmental Quality Act (CEQA), all actions by the District in reviewing, approving, issuing and inspecting Improvement Plans, construction permits and public works for applicant-initiated projects shall be deemed ministerial. It shall be the Applicant's responsibility to conform to the requirements of CEQA and the requirements of the lead agency, which has approved a development project or entitlement, including all mitigation measures that may relate to public improvements under District approval and inspection. The District shall be held harmless from any suit or action arising out of compliance by the Applicant with CEQA, or performance or lack of performance by the Applicant of any mitigation measure adopted or required by any local government.

I-B1-4. Contractor Responsibilities

The Contractor shall be directly responsible for the means, methods, techniques, sequences, and procedures of construction not otherwise required by these Standards and the Improvement Plans. At all times, the Contractor shall be responsible for compliance with all governing federal, state, and local laws, ordinances, codes, orders, and regulations that in any manner affect those engaged or employed on the jobsite, the materials used in the Work, and the safe conduct of the Work. The Contractor shall also be directly responsible for the compliance of all finished work with these Standards and the Improvement Plans.
The inspection by the District Engineer or Inspector, or any approval of the work by the District Engineer or Inspector, does not relieve the contractor of the responsibility to adhere to the standards generally prevailing for the construction, exercise the same degree of care, skill, and diligence in the performance of the work as is ordinarily provided by a licensed contractor under similar circumstances, and adhere to the approved plans and these Standards. Any defective work discovered by the District before the expiration of the period prescribed for latent deficiencies in Section 337.15 of the Code of Civil Procedure shall be removed and replaced, at the applicant's expense, by work that fully conforms to the provisions of the approved plans and these Standards.

I-B2. INTERPRETATION OF SPECIFICATIONS AND DRAWINGS

These Standards are intended to serve as one document. This means that the specifications and drawings contained herein are complementary, and what is called for in one shall be as binding as what is called for in both. In the case of conflict between the specifications and drawings, the specifications shall govern. In case of conflict between the Improvement Plans and Standard

Drawings, the Standard Drawings will govern unless the District Engineer has approved a specific variance. In the event of discrepancies, errors, or omissions found in these Standards, or should it appear there is not sufficient detail to perform the Work, then the Applicant shall promptly submit in writing to the District Engineer a request for clarification or interpretation. The District Engineer will act upon such a request within five (5) working days.

I-B3. VARIANCES

A request for a variance from any requirement contained in these Standards must also be submitted in writing to the District Engineer by the Applicant. Such requests shall identify the exact requirement at issue and indicate the proposed variance with supporting factual information. The District Engineer will act upon such requests within ten (10) working days. Any appeal of a decision by the District Engineer must be submitted in writing to the Dublin San Ramon Services District Board of Directors within ten (10) working days of the District Engineer's action. Such appeal will be heard at the next regularly scheduled Board meeting. The written appeal must be received at least ten (10) working days prior to the meeting at which time it will be heard.

I-B4. APPLICATION FOR SERVICE

The first step an Applicant shall take to acquire potable water, recycled water, and/or sewer service for a project shall be the submittal of an application for service to the District office. Once this has been done and the accompanying plan check fee paid, then all subsequent project design review and approval steps shall be undertaken.

I-B5. PLANNING CONSULTATION SERVICES

To coordinate the best alternative plan for delivery of potable water, recycled water, and/or sewer service for a development project, the District Engineer will review proposed Work in accordance with the District's master plans. The District Engineer shall determine if the proposed Work will require a plan of services in order to comply with the District's master plans. Upon determination that a plan of services is required for Work, the District Engineer shall determine who shall prepare the plan of services.

The Applicant shall be entitled to a limited number of planning consultation sessions with the District Engineer or an appointed representative from District staff not to exceed eight (8) personnel hours unless agreed to by the District.

This shall also include follow-up review by District staff of any required engineering documentation such as Improvement Plans or calculations prepared by the Applicant or Applicant's Engineer, subject to plan check fees. In the event that District time for plan review services exceeds two (2) reviews, then the Applicant may be charged for further planning consultation services on an hourly basis in accordance with the District Code. Time spent on formal review of completed Improvement Plans shall be considered as part of the project approval process and not under planning consultation services.

I-B6. PROJECT APPROVAL PROCESS

The project approval process shall basically consist of:

1. The submittal of Improvement Plans and Final Map or Parcel Map, if applicable, for District review.
2. The submittal of Engineer's Cost Estimate.
3. The submittal of application for services and associated project planning and review fees.
4. The submittal of certificates of insurance with the District, each of its officers, employees and agents included as additional insured.
5. The submittal of faithful performance and payment bond directly to the District.
6. The payment of all District fees and issuance of all necessary permits.
7. The submittal of all required easement description offers, legal description of plats, and plat plans. The fee title owner shall sign the easement offer.

I-B6-1. Improvement Plans

Work necessary for the installation of mains, services, and appurtenances to provide potable water, recycled water, and/or sewer service shall be shown on the Improvement Plans. The Improvement Plans shall be prepared under the direction of, and signed by, a currently registered professional engineer in the State of California.

Improvement Plans showing the proposed Work shall be submitted to the District for approval. Included with this submittal shall be all calculations requested by the District Engineer to verify the design of any portion of the potable water, recycled water, or sewer systems. Calculations shall be based on methods generally accepted by the engineering profession and shall be neatly and legibly done in such form as to enable them to be readily checked. Calculations shall be signed and stamped by a State of California registered civil engineer. In addition, literature and technical data concerning any of the materials and equipment to be used shall be furnished to the District Engineer upon request.

Improvement Plans shall comply with the following requirements. Exceptions for small projects may be granted subject to the discretion of the District Engineer.

1. During plan checking, submit three (3) sets of full size Improvement Plans, with a minimum drawing size of 22 inches by 34 inches:
2. All mains shall be shown in plan and profile with services and laterals in plan.
3. All existing and proposed fire hydrants, valves, and other miscellaneous appurtenances shall be shown for potable and recycled water systems. Commercial and recycled water fire hydrants shall be specifically distinguished.
4. All existing and proposed backflow preventers, valves and other miscellaneous appurtenances shall be shown for potable water systems.
5. All existing and proposed valves and other miscellaneous appurtenances shall be shown for recycled water systems.
6. All existing and proposed manholes, cleanouts, and other miscellaneous appurtenances shall be shown for sewer systems.

7. All existing and proposed potable and recycled water mains, storm and sanitary sewers in the vicinity of any proposed potable water and/or recycled water facilities shall be shown.
8. All existing and proposed buildings and other structures, including light standards and accessory structures, which may affect maintenance, operations, or replacement of water and sewer mains, shall be shown.
9. All required easements shall be shown.
10. Plan and profile drawing scale shall be at least 1 inch equals 40 feet.
11. An overall plan view of the entire proposed potable water, recycled water, and sewer-line system shall be provided and shown on one sheet with a drawing key for subsequent plan and profile sheets. In addition, entire single utility should be shown on single sheets.
12. Improvement Plans shall include a location map showing the area to be served relative to established public roads.
13. Improvement Plans shall include a note that states: "Work shall comply with the Standard Procedures, Specifications, and Drawings of Dublin San Ramon Services District."
14. When service utilities and layouts are not presented clearly on Improvement Plans, District may require enlarged details to be provided.
15. Utility poles, fences, street lights and trees shall be specifically identified on Improvement Plans.
16. Improvement Plans shall show all proposed utilities and improvements and shall be substantially complete to the satisfaction of responsible agencies. "Water Only" or "Sewer Only" plans shall not approved by the District Engineer.

The District cost of reviewing the first two (2) Improvement Plan submittals is considered covered by the standard plan checking fees. Additional Improvement Plan submittal reviews will be charged to the Applicant on the basis of District hourly review time.

Once a development project has been approved by the District Engineer, then two (2) full size bluelines, one (1) reduced 11-inch X 17-inch copy, and one (1) digital vectorized file on CD of the Improvement Plans shall be submitted to the District. Digital raster copies are not acceptable. The digital vectorized files shall be in AutoCAD 2000 or higher drawing format. Drawing units shall be decimal with a precision of 0.00. Angles shall be in decimal degrees with a precision of 0.00. All objects and entities in layers shall be colored by layer. All layers shall be named in English. Abbreviations are acceptable. All submitted map drawings shall use the Global Coordinate System of USA, California, NAD 83 California State Planes, Zone III, and U. S. foot.

No changes shall be made to the approved Improvement Plans unless approved and initialed by the District Engineer. In the case of an approved change, all submitted sheets affected by the change shall be replaced.

During construction, one (1) completed set of Improvement Plans shall be kept on site at all times.

I-B6-2. Insurance

An Applicant or Contractor shall procure, carry, and maintain for the duration of the contract the following insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors. Coverage shall at least be as broad as the following:

1. Commercial general liability insurance using Insurance Services Office Form CG 00 01, including products and completed operations, with limits of no less than the amount of $5,000,000 per occurrence for bodily injury, personal injury, or death, and property damage. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be $10,000,000;

2. Automobile Liability: Insurance Services Office Form Number CA 0001 covering Code 1 (any auto), with limits no less than $5,000,000 per accident for bodily injury and property damage;

3. Workers' Compensation insurance as required by the State of California, with Statutory Limits, and Employers' Liability insurance with a limit of no less than $1,000,000 per accident for bodily injury or disease;

4. Builder's Risk (Course of Construction) insurance covering all risks of loss less policy exclusions, with limits equal to the completed value of the project and no coinsurance penalty provisions; and, if the project involves environmental hazards,

5. Contractors' Pollution Legal Liability and/or Asbestos Legal Liability and/or Errors and Omissions with limits no less than $1,000,000 per occurrence or claim, and $2,000,000 policy aggregate.

Any deductibles or self-insured retentions must be declared to and approved by the District. At the option of the District, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the District, its officers, officials, employees, and volunteers; or the Applicant or Contractor shall provide a financial guarantee satisfactory to the District guaranteeing payment of losses and related investigations, claim administration, and defense expenses.

Such insurance shall be primary to any insurance carried by the District, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the District, its officers, officials, employees, or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.

Dublin San Ramon Services District, its Board, each of its officers, employees, and agents shall be named as additional insured on the CGL and auto policies with respect to liability arising out of automobiles owned, leased, hired, or borrowed by or on behalf of the Applicant or Contractor; and with respect to liability arising out of work or operations performed by or on behalf of the Applicant or Contractor including materials, parts, or equipment furnished in connection with

such work or operations. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance (at least as broad as ISO Form CG 20 10, 11 85 or both CG 20 10 and CG 20 37 forms if later revisions used)..

Cancellation statement on the insurance certificate shall state: "Should any of the above described policies be cancelled before the expiration date thereof, the issuing company will mail 30 days written notice to the certificate holder named to the left." In addition, each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled except after thirty (30) days prior written notice (10 days for non-payment) has been provided to the District.

The Applicant or Contractor shall maintain such insurance until the project has been accepted by the District General Manager. The Applicant or Contractor shall submit a copy of the Certificate of Insurance along with endorsement from the issuing insurance company. Renewal of such insurance shall be submitted to the District thirty (30) days prior to the expiration of the insurance.

I-B6-2.1. Waiver of Subrogation

Contractor hereby agrees to waive rights of subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation. The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the District for all work performed by the Contractor, its employees, agents and subcontractors.

I-B6-2.2. Verification of Coverage

Contractor shall furnish the District with original certificates and amendatory endorsements, or copies of the applicable insurance language, effecting coverage required by this contract. All certificates and endorsements are to be received and approved by the District before work commences. However, failure to obtain the required documents prior to the work beginning shall not waive the Contractor's obligation to provide them. The District reserves the right to require complete, certified copies of all required insurance policies, including endorsements, required by these specifications, at any time.

I-B6-3. Bonds and Other Security

All Applicants and/or Contractors shall obtain a faithful performance bond, a payment bond, and warranty bond/maintenance security. The faithful performance bond and the payment bond should be based on 100% of Applicant's Engineer's cost estimate, subject to District Engineer approval. The faithful performance bond and the payment bond shall be submitted to the District prior to issuance of a construction permit and remain in full force and effect until the project is accepted by the District. The warranty bond/maintenance security shall have a minimum amount of 10% of the amount of the District Engineer approved Engineer's cost estimate. The warranty bond/maintenance security shall be submitted to the District prior to acceptance of the project and shall remain in place until authorization of release has been issued by the District.

The warranty bond/maintenance security shall be submitted prior to District General Manager project acceptance and remain in place at least one year after the completion and acceptance of the project, and completion of any repairs required by the District at warranty inspection, unless the District Engineer requires a longer period. If project occupancy is less than ninety (90) percent at project acceptance, the warranty bond/maintenance security shall remain in place until the final residential or commercial unit in the project is granted occupancy.

I-B6-4. Permits, Licenses and Fees

The Applicant shall obtain all necessary District construction permits, pay all District fees, and submit a copy of the contractor's license prior to the commencement of any Work. Prior to installation of potable water meters, Zone 7 water connection fees shall be paid.

I-B6-5. Easements

When conditions require that potable water, recycled water, and sewer mains be located in private property, an easement for the area of pipe alignment shall be secured for the District by the Applicant at no cost to the District. Easement shall provide for restrictions of permanent construction within easement to provide ingress and egress for maintenance.

For subdivision tracts, the owners of land included within the subdivision shall offer to dedicate, for public use, the sewer, recycled water, and potable water easements so designated on the final or parcel map. For other than subdivision tracts, dedication of sewer, recycled water, and potable water rights-of-way shall occur by means of deeds of conveyance to the District for all dedications other than those dedications created by subdivision tract maps on a form and as approved by District Engineer. The Owner of Record shall sign the easement offer.

In addition to easements over the actual pipeline alignment, and where required due to topography or other access limitations, easements shall include adequate ingress and egress for District maintenance vehicles and equipment.

In circumstances where an easement is required across an adjacent property not owned by the Applicant, the Applicant shall be responsible for negotiating and acquiring easements for potable water, recycled water and/or sewer that may be required. The easement documents must be received and approved by the District prior to the issuance of any construction documents.

I-B7. INSPECTIONS AND TESTING

All materials furnished and all Work performed under the contract shall be subject to inspection by the District Engineer. The Contractor shall be held strictly to the true intent of the Standards in regard to quality of materials, workmanship, and diligent execution of the contract. Such inspection may include mill, plant, shop, or field inspection as required. The District Engineer shall be permitted access to all parts of the Work, including plants where materials or equipment are manufactured or fabricated; and shall be furnished with such materials, information, and assistance by the Contractor and subcontractors and suppliers as is required to make a complete and detailed inspection.

The Contractor shall notify the Inspector forty-eight (48) hours in advance of the commencement of any Work. Tie-ins to existing District facilities require seven (7) working days advance notice unless otherwise authorized by the District Engineer.

The District Engineer and the officers, and agents of the District shall have unrestricted access at reasonable hours to all premises to which the District provides services to inspect the potable water, recycled water, and/or sewer facilities, meter or other measuring apparatus and to see that the rules and regulations of the District regarding the installation of potable water, recycled water, and/or sanitary sewer facilities, and the use of potable and recycled water, and the discharge of wastewater are being observed.

I-B7-1. Work Done in the Absence of Inspection

Work done in the absence of District inspection may be required to be removed and replaced under the proper inspection, and the entire cost of removal and replacement shall be borne by the Contractor, regardless of whether the Work removed is found to be defective or not. Work covered up without the authority of the District Engineer shall, upon order of the District Engineer, be uncovered to the extent required; and the Contractor shall similarly bear the entire cost of performing all the Work and furnishing all the materials necessary for the removal of the covering and its subsequent replacement, as directed and approved by the District Engineer.

I-B7-2. Cost of Inspection and Testing

The cost of initial inspection and testing, with the exception of bacteriological tests, shall be included in the inspection fees per District Code and collected in advance. In the event that any inspection or test reveal non-compliance with approved plans or these specifications, the Applicant shall bear the cost for such corrective measures deemed necessary by the District Engineer, as well as additional re-inspection and re-testing costs incurred by the District.

The Applicant shall be directly responsible for the cost of bacteriological tests. The District shall collect the fees for bacteriological tests separately, after completion of laboratory work for each test.

Overtime construction Work performed at the option of, or for the convenience of, the Contractor will be inspected by the District at the expense of the Applicant and will be billed to and shall be paid for by the Applicant on a monthly basis. Overtime shall be considered beyond the regular eight (8) hour day and for any time on Saturday, Sunday, or holidays. There will be no charge for the inspection of overtime Work ordered by the District Engineer. The Applicant or Contractor shall notify the Inspector not less than forty-eight (48) hours prior to beginning overtime Work and shall be required to complete, and submit to the District, an overtime request form to firmly verify the overtime request. In the event of conflicting schedules or other prior commitments of the Inspector, overtime inspection may not necessarily be provided for the requested period. Fees for overtime inspection shall be in accordance with fees established by ordinance or resolution of the District Board of Directors.

I-B7-3. The Inspector

District Inspectors will be authorized to inspect, on behalf of the District Engineer, all Work done and all materials furnished. Such inspection may extend to all or any part of the Work. The Inspector is not authorized to revoke, alter, or waive any requirements of the Standards. The Inspector is authorized to call attention of the Contractor to any failure of the Work or materials to conform to the Standards. The Inspector will have the authority to reject materials or suspend the Work until any questions at issue can be referred to and decided by the District Engineer or a duly appointed representative. The Inspector will in no case act as a supervisor or perform other duties for the Contractor, nor interfere with the management of the Work by the Contractor. Any advice, which the Inspector may give the Contractor, shall in no way be construed as binding to the District in any way or releasing the Contractor from fulfilling all the Contractor's responsibilities.

If the Contractor refuses to suspend operations on verbal order from the Inspector, the District Engineer shall then issue a written order stopping all Work. After delivery of the order to the Contractor or person in charge, the Inspector will immediately leave the job, and all Work done in the absence of the Inspector shall not be accepted.

I-B7-4. Testing

Except where otherwise specified, the District Engineer or Inspector will make, or have made, such tests determined necessary to ensure that the Work is being accomplished in accordance with the requirements of these Standards and Improvement Plans. The Contractor shall be required to furnish materials and/or do whatever work may be necessary to prepare the facilities for testing. In the event that any tests reveal noncompliance with specified requirements, the Contractor shall bear the cost for such corrective measures deemed necessary by the District Engineer, as well as the cost of subsequent re-testing.

I-B8. SERVICE AND OCCUPANCY

I-B8-1. Beneficial Occupancy

The District may, prior to acceptance of the Work, occupy, or use, any completed part or parts of the Work, providing these areas have been approved for occupancy by the District. The District shall operate and maintain such occupied parts of the work to ensure continued service to its customers. The exercise of this right shall in no way constitute an acceptance of such parts, or any part of the Work. The Work shall be accepted by the District General Manager only when all of the Work has been duly and properly performed in accordance with the requirements of these Standards and Improvement Plans.

District occupancy of part(s) of the Work does not relieve the Applicant or Contractor from completion of follow-on Work associated with those occupied part(s) of the Work. During the this beneficial occupancy period, the Applicant and/or Contractor shall perform maintenance repairs on those occupied part(s) of the Work associated with faulty or insufficient materials,

workmanship, and/or installation, and any damages associated with the construction of the Project. During construction activities, the Applicant and the Contractor shall protect those occupied part(s) of the Work in accordance with I-D1-5. Care of Existing Property Structures and Utilities. The commencement of the warranty period for these occupied part(s) of the Work shall be upon the acceptance of all of the Work by the District Board of Directors. The warranty bond/maintenance security required by these specifications shall remain in full effect in accordance with I-B6-3. Bonds and Other Security.

I-B8-2. Building Occupancy

Conditions for potable water, recycled water, and/or sewer service and allowance for occupancy of up to ninety (90) percent of dwelling units or ninety (90) percent of the square footage for commercial/industrial of a development project are as follows:

1. All mains, services, and major appurtenances such as fire hydrants and valves for potable and recycled water systems and manholes for sewer systems have been installed to the satisfaction of the Inspector.
2. All connections to existing District systems and facilities have been performed.
3. All testing as required in these Standards has been successfully completed.
4. No further construction Work, such as roadwork, will jeopardize the integrity or quality of potable water, recycled water, or sewer facilities already installed.
5. There is access to all operating facilities such as manholes, vaults, and valves.

Upon meeting all of the above conditions, the Applicant shall submit in writing to the District Engineer a request for occupancy, after which the District Engineer shall respond by recommending occupancy of the home or building to the City following verification that all conditions have been met. The remaining ten (10) percent of the units can be occupied only after formal acceptance of the improvements by the District General Manager.

I-B9. ACCEPTANCE AND GUARANTEE OF WORK

Acceptance of the Applicant's Development Project shall occur only after the following conditions are satisfied:

1. Facilities to be accepted must be adequately protected from on-going construction. Where facilities are to be located in paved areas, the second lift of pavement must be in place.
2. All punchlist work shall be completed.
3. The project warranty bond/maintenance security shall be submitted to the District.
4. The project record drawings shall be submitted to the District.
5. Property dedication requirements over facilities to be accepted shall be completed.
6. All applicable District and Zone 7 fees and charges pertaining to the project shall be paid in full.
7. Special conditions outlined in the construction permit shall be satisfied.
8. Grading plans shall be submitted in AutoCAD digital format with elevation data attached to contour lines and spot elevations.

9. For residential developments, a minimum of fifty (50) percent of the residential units must be occupied. For commercial/industrial developments, a minimum of fifty (50) percent of the commercial square footage must be occupied.

Acceptance of the Applicant's Development Project will be made by action of the General Manager after the Work has been completed in accordance with these Standards, the approved Improvement Plans, all tests have been conducted and successfully completed, any required property dedications to the District are completed, and a favorable final inspection has been completed.

Immediately upon and after acceptance of the Work by the District, the guarantee period on all Work shall be in effect. The standard guarantee period shall be a minimum of one (1) year unless the District Engineer requires a longer period. The warranty bond/maintenance security shall remain in place until the final residential or commercial unit in a development is granted occupancy.

Any faulty workmanship and/or defective materials, which are discovered within the guarantee period, shall be corrected and/or replaced by the Contractor at no expense to the District. Such guarantee period may be extended upon disclosure of a defect until a minimum of one (1) year after the correction of the defect.

All repair Work required during the guarantee period shall be performed within five (5) working days of issuance of written notification to the Contractor. Emergency Work required on work of the Contractor performed by the District and Work performed by the District due to the nonperformance of the Contractor shall be reimbursed to the District within thirty (30) days of invoice.

I-B9-1. Record Drawings

The Applicant or the Applicant's Contractor shall solely dedicate and maintain one (1) set of full size prints as "Record Drawings" and mark thereon the actual work, including any deviations from plan dimensions, elevations or orientations. The Record Drawings shall be submitted in excellent condition to the District upon completion of the job as a condition of acceptance of the Project. Marked prints shall be updated at least once each week and shall be available for District review.

At the completion of all Work, Applicant shall submit Record Drawings as follows:

- one (1) copy in digital vectorized form and one (1) copy in TIF format on CD-ROM. The digital vectorized files shall conform to the format mentioned above.
- one (1) hardcopy set of 11-inch x 17-inch.

I-B10. RECYCLED WATER SERVICE

I-B10-1. Determination When To Use Recycled Water Or Potable Water

The District shall determine whether a given service will be furnished with recycled water or potable water. The determination shall be in accordance with the standards of treatment and water quality requirements set forth in Title 22, Chapter 4 of the California Administrative Code, the intent to promote wise and judicious use of water in accordance with State Water Code, Division 7, Chapter 7, parts 13550 through 13580, and the District Code, ordinances, and Board policy. All information necessary to determine the furnishing of recycled water to any given service, including, but not limited to, on-site irrigation and landscape plans, acreage of plantings, booster pumping and special requirements shall be submitted to District, reviewed and approved in accordance with District "Recycled Water Use Guidelines."

SECTION I-C - DESIGN INFORMATION AND CRITERIA

I-C1. SCOPE

This section covers all design information and criteria general to potable water, recycled water, and sewer projects. For design information and criteria specific to potable water, recycled water, or sewer, refer to Sections II, III, and IV, respectively, of these Standards.

I-C2. PIPE DESIGN

The three primary factors of pipe design for which the Applicant's Engineer shall be responsible are pipe sizing, material selection (limited to only approved material), and class or thickness.

I-C2-1. Pipe Sizing

Pipe mains shall be sized according to the particular criteria presented in the potable water, recycled water, and sewer sections of these Standards.

I-C2-2. Pipe Material Selection

The Applicant's Engineer is directed to the materials of construction Sections II-B, III-B, and IV-B under the potable water, recycled water and sewer sections of these Standards. Only the pipe materials specified in those sections shall be allowed. Any other pipe material selected by the Applicant's Engineer shall be cause for not approving the Improvement Plans unless a specific variance in pipe material selection has been approved by the District Engineer for the particular project development.

I-C2-3. Pipe Class or Thickness

The Applicant's Engineer shall be responsible for verification that minimum class or thickness of pipe, as specified in the materials of construction Sections II-B, III-B, and IV-B under the potable water, recycled water and sewer sections of these Standards, is adequate in regard to providing sufficient structural pipe strength for the particular project development. Sufficient structural pipe strength shall be made available to prevent any collapse, excessive deflection, cracking, or other such pipe failure. The Applicant's Engineer shall consider all factors affecting the required pipe class or thickness including, but not limited to, the dead and live loads; the internal pressure; the road surfacing, trench and pipe embedment cross sections design; and the cover over the pipe. The pipe embedment cross sections design and cover over the pipe are specified in Sections II, III, and IV, respectively, in these Standards and cannot be modified unless specific conditions warrant so and specific approval has been given by the District Engineer.

External loads on sewer mains shall be determined using design methods for computing external loads on trench conduits based on Marston's Formula, and described in the "Design and Construction of Sanitary and Storm Sewer," latest Edition, WEF Manual of Practice No. 9.

It shall be the responsibility of the Applicant's Engineer to determine all other pipe thickness design parameters with a reasonable degree of conservatism and factors of safety. The possibility of H-20 truck loading and impact loads as determined from AASHTO Standard Specifications shall be duly considered.

If the Applicant's Engineer's design analysis shows that a pipe class or thickness other than the required minimum is necessary, then that upgraded pipe class or thickness shall be clearly indicated on the Improvement Plans. In addition, such designs shall require the submittal of calculations by the Applicant's Engineer.

I-C2-4. Pipe Corrosion Protection

Corrosion protection for ductile iron pipe, fittings, valves, and appurtenances shall be as recommended and designed by a State of California Registered Corrosion Engineer. During the plan review process, the Applicant shall submit a copy of the Corrosion Engineer's report and calculations, complete with recommendations. At a minimum, pipe and appurtenances shall have a bituminous coating and shall be encased in loose polyethylene tubing for external corrosion protection. Installation of polyethylene encasement shall be in accordance with the requirements of ANSI A 21.5 (AWWA C105). The interior and exterior surfaces of all fittings and valves shall be shall be coated with 6-8 mil nominal thickness of protective fusion-bonded epoxy. The fusion-bonded epoxy coating shall be applied in accordance with and shall meet all applicable terms and provisions of ANSI/AWWA C116/A21.16-09.

Cathodic protection systems shall include test stations. Cathodic test stations shall be installed on all reaches of the pipeline. Test stations shall be verified by independent testing service and a copy of the test results shall be submitted to the District prior to acceptance of the pipeline.

I-C3. STRUCTURAL PROTECTION

In addition to upgrading the pipe class or thickness, the Applicant's Engineer may recommend the installation of an arch encasement or total pipe encasement on the Improvement Plans to provide sufficient structural support and protection of a pipe main. Arch encasements and total pipe encasements shall be installed as shown in Drawings G-2 and G-3, respectively, of these Standards, unless the Applicant's Engineer demonstrates that more protection is required for the particular pipe installation. In such a case, the Applicant's Engineer shall be responsible for the determination of adequate protection and the District shall be responsible for review and acceptance of the design.

I-C3-1. Other Pipes and Structures

Mains designed to cross under or over other pipes or structures shall be protected from damage and shall be constructed to prevent endangering the other pipe or structure. To minimize hazards to buildings and other above-ground structures when mains are repaired, a minimum horizontal separation of seven and a half (7 ½) feet from pipe external wall and structure foundation or footing must be maintained. The District Engineer may require greater horizontal separation for pipes larger than twelve (12) inches in diameter.

Particular attention shall be given to the possibility and prevention of settlement-caused damage. As a minimum, structural protection as shown in Drawing G-3 shall be provided. Also where future replacement of any line may be extremely difficult due to the pipe or structure, special design considerations may be required.

I-C3-2. Flexible Joints

Flexible joints that will allow for differential settlements or other movement of pipe, structures, adjacent pipe, and adjacent structures shall be provided where lines enter encasements, manholes, or other structures. Specific flexible joint requirements are provided in the potable water, recycled water, and sewer sections of these Standards.

I-C3-3. Steep Grades

When pipe mains are laid on grades steeper than ten (10) percent and are not under nor intended to be under pavement, then special erosion protection shall be provided over the pipe trench. As a minimum requirement, ground cover shall be planted to match the existing surrounding area. Trench dams, as shown in Drawing G-5, water diversion structure, and other surface improvements may be required.

Trench dams per Drawing G-5 shall be installed for mains with slopes of 3:1 or steeper.

I-C3-4. Utility Clusters

In areas where utility services are clustered, the Applicant's Engineer shall submit detailed Improvement Plans showing all service lines, lateral pipeline routes, meter box locations, and other related details.

I-C4. MINIMUM COVER

Minimum cover as specified in the respective potable water, recycled water and sewer sections shall be as measured from the top of pipe to finished grade. In cases where minimum cover cannot be maintained, such as at the crossing of a water main with a sewer main or any other utility line, then either an under crossing or over crossing shall be chosen based upon an evaluation by the Applicant's Engineer. Evaluation shall include the need for higher class pipe or arch encasement, ability to meet State of California, Department of Health Services, Criteria for the Separation of Water Mains and Non-Potable Pipelines and the resulting need for either blowoff or air/vacuum release valves. All calculations involved in this evaluation shall be submitted to the District Engineer for review and acceptance.

I-C5. HORIZONTAL AND VERTICAL SEPARATION

All horizontal and vertical separations between potable water mains, recycled water mains, sewer mains, and sewer laterals shall conform to the criteria as contained in State of California, Department of Health Services, Criteria for the Separation of Water Mains and Non-Potable

Pipelines. A copy of this document is included in Appendix A of these Standards. Wherever the State of California separation criteria cannot be maintained, all special construction criteria as outlined in the same document shall be followed.

The separation criteria shall be applied in all cases to: (i) separation of potable water mains from sewer mains; (ii) separation of potable water mains and service lines from recycled water mains and primary customer facility irrigation lines; and, when practical, (iii) separation of recycled water mains from sewer mains. If application of the criteria to separation of recycled water mains from sewer mains is not practical, special approval is required from the District Engineer.

Vertical separation between sewers and all other utilities other than potable water and between potable water and all other utilities other than sewers shall be no less than twelve (12) inches. Under special cases, a separation of less than twelve (12) inches may be allowed providing the structural protection details of Drawing G-3 are used and special approval is obtained from the District Engineer. Horizontal separation between recycled water, sewers and potable water shall be a minimum of ten (10) feet.

Potable water mains, recycled water mains, and sewer mains shall each be placed in a separate trench. Utilities under ownership by other entities shall not be placed in parallel with and in the same trench as potable water mains, recycled water mains, or sewer mains.

I-C6. EASEMENT REQUIREMENTS AND LOCATIONS

Easements shall be avoided where a reasonable alternate solution exists. Unless there are physical limitations, potable water, recycled water, and sanitary sewers facilities shall be installed within public streets. When easements are required, there shall be careful consideration of how the line is to be maintained and/or replaced, if necessary.

All manholes and valves within easements shall be accessible by conventional maintenance vehicles traveling over paved roads or driveways unless otherwise approved. Thus, manholes and valves within private property are discouraged and subject to special approval by the District Engineer.

Service laterals should not be connected to a main line within an easement unless specifically approved by the District Engineer.

I-C6-1. Easement Width and Obstructions

Easements for pipes up to fifteen (15) inches in diameter shall be a minimum of fifteen (15) feet wide, on private roads and parking lots, and twenty-five (25) feet wide for cross country pipelines, or as determined necessary by the District Engineer. However, additional easement width shall be required where the depths of bury exceed fifteen (15) feet, pipes exceed fifteen (15) inches in diameter, or as deemed necessary by the District Engineer. Pipelines shall not be installed under pavers or decorative pavement or concrete. The Improvement Plans should clearly indicate any known buildings, block walls, streetlights, trees, pavers, decorative pavement or concrete, or other obstructions within a proposed easement. Such items are contrary to District policy and require special approval from the District Engineer.

I-C6-2. Pipe Location in Easement

Pipelines shall generally be placed in the center of easements and only in unusual circumstances shall a pipeline be approved which is closer than five (5) feet from the easement edge. Unless specifically otherwise approved by the District Engineer, the line shall be straight without horizontal bends or deflections.

I-C6-3. Easement Location

The full easement width shall be on one lot or property in such manner that walls, trees, or permanent improvements will not obstruct access to District facilities. Where this requirement cannot be met without interfering with existing buildings, easements may straddle lot lines providing approval is received from the District Engineer and the sewer or water is not located on the lot lines.

I-C7. CROSS CONNECTIONS

Cross connections between any potable water supply and any piping containing recycled water are prohibited. Cross connections between recycled water piping and other water supplies shall be considered on a case-by-case basis.

I-C8. MASTER PLAN COMPLIANCE

The primary guide for growth and development of the District's potable water, recycled water, and sewer systems is the master plan. At any one time, the District may have one or more master plans, which may or may not apply to the location of the project development. The Applicant's Engineer shall be required to be aware of any such applicable master plans before proceeding with design. The Applicant's Engineer shall at all times remain in conformance with the applicable master plan(s) with respect to layout, sizing and other such design criteria as provided in the master plan(s). Deviation from the master plans shall only be permitted by specific approval of the District Engineer. The primary guide for growth and development of the District's recycled water system is the same as for its water and sewer systems.

I-C9. ABANDONMENT

All existing potable water, recycled water and sewer mains or structures that are to be abandoned shall be indicated on the Improvement Plans by the Applicant's Engineer. In general, abandoned lines that are in service will be replaced with a parallel line of equal or larger size, and the Applicant's Engineer shall demonstrate in any case that the abandonment does not adversely affect the potable water, recycled water or sewer systems.

I-C10. SEISMIC REQUIREMENTS

New potable water, recycled water, and sewer pipelines and structures that are located within the vicinity of earthquake zones, for example the Calaveras Fault along San Ramon Road and San

Ramon Valley Boulevard, may be required to have special seismic design features. The District Engineer shall evaluate the facilities and associated requirements on a case-by-case basis.

SECTION I-D - CONSTRUCTION REQUIREMENTS

I-D1. GENERAL

I-D1-1. Quality Control

Requirements for quality of materials and workmanship are specified in the following subsections.

I-D1-1.01. Quality of Material

Material and equipment to be incorporated into the Work shall be new and unused unless otherwise approved by the District Engineer and shall bear the manufacturer's stamp or marking. In case a reference is not clear as to which of several available grades is desired, the highest quality material shall be used.

The Contractor shall, at any time when requested, submit to the District Engineer, proper authenticated documents or other satisfactory proofs of compliance with the requirements of these specifications. This shall include certified copies of factory or laboratory test reports showing the strength characteristics of any materials used in the Work. For all reinforced concrete work, the Contractor shall furnish, in advance of pouring concrete and if requested, the mix design and calculated concrete strength as prepared by the concrete supplier.

I-D1-1.02. Substitutions

Where articles or materials are specified by brand or trade name, alternate materials or articles equal to those specified may be approved provided the request for approval is in writing to the District Engineer accompanied by supporting data. Sufficient time shall be provided to permit investigations without delaying the Work. No deviation from the Standards will be allowed unless the District Engineer approves substitutions.

I-D1-1.03. Quality of Workmanship

All Work will be done by persons experienced in the specific work, under competent supervision and in a manner to the District's complete satisfaction.

I-D1-1.04. Defective Material and Work

Materials not conforming to the requirements of these specifications shall be considered as defective, and all such materials, whether in place or not, shall be rejected and shall be removed from the site of the Work unless otherwise permitted by the District Engineer. No rejected material, the defects of which have subsequently been corrected, shall be used until inspected and approved by the District Engineer.

I-D1-1.05. Material Test Reports

Upon request, suppliers of material shall furnish a certified statement signed by an authorized representative of the manufacturer that materials furnished under these specifications comply in all respects with these specifications. All physical and chemical tests required must be performed within the United States.

I-D1-1.06. Replacement Parts

Suppliers of material must maintain a complete stock of replacement material and repair parts in the local area. Proof of ability to provide these replacements must be demonstrated upon request of the District Engineer.

I-D1-2. Permits and Bonds

The Contractor shall obtain all permits and bonds necessary for construction of the Work, including any required encroachment permits for construction within city, county, or state rights-of-way. The Contractor shall comply with all requirements imposed by the governing agency as specified in the encroachment permit.

I-D1-3. Safety

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work as required by Labor Code Section 6401.7. The Contractor shall take all necessary precautions for the safety of all Contractor employees on the Work and other persons who may be affected thereby.

The Contractor shall comply with all applicable laws, ordinances, rules, regulations, and orders of any public body having jurisdiction for the safety of persons or property to protect them from damage, injury, or loss. This shall include the Construction Safety Orders and rules of the Division of Industrial Safety, State of California, as contained in the California Administrative Code, Title 8, Chapter 4.

I-D1-4. Maintenance of Traffic

The Contractor shall comply with all local ordinances and regulations involving the maintenance of street traffic. The requirements that follow are intended to supplement those governing local ordinances and regulations. Where a conflict arises, the local ordinances and regulations shall prevail.

Contractor shall conduct Work to interfere as little as possible with public travel, whether vehicular or pedestrian. Contractor shall also be responsible for providing traffic control. Whenever it is necessary to cross, obstruct, or close roads, driveways, and walks, whether public or private, Contractor shall provide and maintain suitable and safe bridges, detours, or other temporary expedients for the accommodation of public and private travel, and shall give reasonable notice to owners of private drives before interfering with them. Such maintenance of

traffic will not be required when Contractor has obtained permission from owner and/or tenant of private property, or from the authority having jurisdiction over public property involved, to obstruct traffic at the designated point.

In making open cut street crossings, Contractor shall not block more than one-half of the street at a time. Whenever possible, Contractor shall widen the shoulder on the opposite side to facilitate traffic flow. Temporary surfacing shall be provided as necessary on shoulders. No street shall be closed to the public without first obtaining permission of proper governmental authorities and the District.

Toe boards shall be provided to retain excavated materials if required by the District Engineer or the public entity having jurisdiction over the street or highway. Fire hydrants on or adjacent to the Work shall be kept accessible to firefighting equipment at all times. Temporary provisions shall be made by the Contractor to ensure the use of sidewalks and the proper functioning of all gutters, sewer inlets, and other drainage facilities. Local governing agencies may require the submittal and approval of traffic detour plans prior to the commencement of Work.

I-D1-4.01. Temporary Bridges

Contractor shall construct substantial bridges at all points where it is necessary to maintain traffic across excavations for pipeline construction. Bridges in public streets, roads, and highways shall be acceptable to the authority having jurisdiction. Bridges erected in private roads and driveways shall be adequate for the service to which they will be subjected as determined by the Applicant's Engineer. Bridges shall be provided with substantial guardrails and with suitably protected approaches. Footbridges shall be not less than four (4) feet wide, provided with handrails and uprights of dressed lumber. Bridges shall be maintained in place as long as the conditions of the Work require their use for safety of the public, except that when necessary for the proper prosecution of the Work in the immediate vicinity of a bridge, the bridge may be relocated or temporarily removed for such period as District Engineer may permit.

I-D1-4.02. Detours

Where required by the authority having jurisdiction thereover that traffic be maintained over any construction work in a public street, road, or highway, and the traffic cannot be maintained on the alignment of the original roadbed or pavement, Contractor shall, at its own expense, construct and maintain a detour around the construction work. Each detour shall include all necessary barricades, guardrails, approaches, lights, signals, signs, and other devices and precautions necessary for protection of the Work and safety of the public.

I-D1-4.03. Barricades and Lights

All streets, roads, highways, and other public thoroughfares, which are closed to traffic, shall be protected by effective barricades on which shall be placed acceptable warning signs. Barricades shall be located at the nearest intersecting public highway or street on each side of the blocked section.

All open trenches and other excavations shall have suitable barricades, signs, and lights to provide adequate protection to the public. Obstructions such as material piles and equipment shall be provided with similar warning signs and lights.

All barricades and obstructions shall be illuminated with warning lights from sunset to sunrise. Material storage and conduct of the Work on or alongside public streets and highways shall cause the minimum obstruction and inconvenience to the traveling public.

All barricades, signs, lights, and other protective devices shall be installed and maintained in conformity with applicable statutory requirements.

I-D1-5. Care of Existing Property Structures and Utilities

Contractor shall protect, shore, brace, support, and maintain all underground pipes, conduits, drains, and other underground construction uncovered or otherwise affected by construction operations. All improvements including pavement, surfacing, driveways, curbs, walks, buildings, utility poles, guy wires, fences, and other surface structures affected by construction operations, together with all sod and shrubs in yards and parking areas, shall be restored to their original condition if damaged by construction activities, whether within or outside the public right-of-way or easement. All replacements shall be made with new materials.

No trees shall be removed outside of the permanent easement, except where authorized by the District Engineer. Whenever practicable, Contractor shall tunnel beneath trees in yards and parking areas when on or near the trench line. Hand excavation shall be employed as necessary to prevent injury to trees. Trees left standing shall be adequately protected against damage by construction operations.

Contractor shall be responsible for all damage to streets, roads, highways, shoulders, ditches, embankments, culverts, bridges, and other public or private property, regardless of location or character, which may be caused by transporting equipment, materials, or persons to or from the Work or any part of site thereof, whether by Contractor or subcontractors. Contractor shall make satisfactory and acceptable arrangements with the owner of, or the agency or authority having jurisdiction over, the damaged property concerning its repair or replacement or payment of costs incurred in connection with the damage.

All fire hydrants, meters, manholes and valves shall be kept free from obstruction and available for use at all times.

I-D1-5.01. Existing Utilities

The Improvement Plans for the Work shall show the underground utilities on the site of the construction insofar as they are known or can be inferred by the Applicant's Engineer. Horizontal and vertical separation between new and existing facilities shall conform to Section I-C5.

In accordance with California Government Code Section 4216.2, the Contractor shall contact all owners of underground facilities known to be in the area of construction and request marking of these facilities at least two (2) full working days in advance of work. The use of Underground Services Alert (USA) is required. USA's phone number is (800) 227-2600. If work is proposed within ten (10) feet of an underground facility that is potentially hazardous to workers or the public if damaged, the Contractor shall conduct an on-site meeting with a representative of the owner of the underground facilities to determine actions or activities required to verify the location of the facility prior to start of work. Underground facilities that are potentially hazardous include, but are not limited to, high pressure natural gas lines, petroleum pipelines, pressurized sewer pipelines, high-voltage electric supply lines, conductors or cables, or hazardous materials pipelines. The Contractor can obtain the underground facility owner's contact information from USA.

When potholing is required to identify and/or locate underground facilities, the Contractor shall replace the pothole area with two-sack slurry mix and allow for 48 hours of cure time prior to any excavation or boring.

If, in the performance of the Work, an existing utility is encountered which is not shown on the Improvement Plans and is not apparent or inferable from visual inspection of the site, the District shall be notified immediately. The District Engineer will determine whether the Improvement Plans shall be modified, the existing utility relocated or if the Contractor shall work around the existing utility.

I-D1-6. Security

The Contractor shall be responsible for the protection of the site and all Work, materials, equipment, and existing facilities thereon, against vandals and other unauthorized persons.

I-D1-7. Construction Water Supply

The Applicant shall obtain a construction meter from the District and provide an appropriate billing address for water use outside of buildings. No construction water will be allowed from an unmetered source. Unless specifically approved by the District Engineer, construction water supply shall be from the District's recycled water system.

Construction water for residential development projects shall be available in accordance with the fees and conditions in the District Code. Water meter jumpers may be installed in place of water meters for lots in single-family developments for a flat fee. The water meter jumper is to allow the Applicant's contractor to provide space for the water meter as the domestic water line to the home is installed. Water use is limited to:

1. Testing the structure's interior plumbing prior to the construction of walls.
2. Incidental earthwork on the property including presoak of foundation forms prior to concrete pour and finish grade work within the property.
3. House construction needs, such as painting, plaster work, and plumbing work.

No other water use is authorized with the use of the water meter jumper.

The Applicant shall request for a water meter to be installed and an account to be opened if the intended water use differs from above. The Applicant must provide an appropriate billing address. Water meters shall be set prior to activation of landscape irrigation systems and after connection of sewer lateral.

Water services may be shut down should any District personnel observe unauthorized use of water.

The Applicant and its Contractor are jointly and severally responsible for payment of water consumption for construction purposes within its project site, including, but not limited to, water for grading, pipeline flushing, and testing. The project shall not be accepted until such account is paid in full.

I-D1-8. Control of Site Conditions

Contractor shall be responsible for controlling all site conditions including noise, dust, drainage, erosion, and pollution.

I-D1-8.01. Noise

Contractor shall take reasonable measures to avoid unnecessary noise. Such measures shall be appropriate for the normal ambient sound levels in the area during working hours. All construction machinery and vehicles shall be equipped with practical sound muffling devices, and operated in a manner to cause the least noise consistent with efficient performance of the Work.

During construction activities on or adjacent to occupied buildings, and when appropriate, Contractor shall erect screens or barriers effective in reducing noise in the building and shall conduct construction operations to avoid unnecessary noise which might interfere with the activities of building occupants.

I-D1-8.02. Dust Control

Contractor shall take reasonable measures to prevent unnecessary dust. Earth surfaces subject to dusting shall be kept moist with water or by application of a chemical dust suppressant. Dusty materials in piles or in transit shall be covered whenever possible to prevent blowing.

Buildings or operating facilities, which may be affected adversely by dust, shall be adequately protected from dust. Suitable dust screens shall protect existing or new machinery, motors, instrument panels or similar equipment. Proper ventilation shall be included with dust screens.

I-D1-8.03. Drainage Maintenance

The Contractor shall provide and maintain temporary drainage of ground water from all excavations, drains, sewers, ditches, trenches, and structures in compliance with State Water Resources Control Board (SWRCB) Order No. 99-08 DWQ. The Contractor shall keep the excavations dry throughout the construction operations. The laying of pipe or the placing of concrete will not be allowed under circumstances where there is standing water in the excavation.

The Contractor shall dispose of the water from the Work in accordance with their NPDES Permitting issued under SWRCB Order No. 99-08 DWQ.

Contractor shall also provide for the drainage of storm water as may be applied or discharged on the site in performance of the Work. Drainage facilities shall be adequate to prevent damage to the Work, the site, and adjacent property.

I-D1-8.04. Erosion Control

Contractor shall prevent erosion of soil on the site and adjacent property resulting from construction activities. Effective measures, as required in their Storm Water Pollution Prevention Plan (SWPPP), shall be initiated prior to the commencement of clearing, grading, excavation or other operation that will disturb the natural protection. The protective measures shall be in accordance with Regional Water Quality Control Board, Alameda County or Contra Costa County best management practices.

Work shall be scheduled to expose areas subject to erosion for the shortest possible time, and natural vegetation preserved to the greatest extent practicable. Temporary storage and construction buildings shall be located, and construction traffic routed, to minimize erosion. Temporary fast growing vegetation, suitable ground cover, or other acceptable methods shall be implemented as necessary to control runoff.

I-D1-8.05. Pollution Control

Contractor shall prevent the pollution of drains and watercourses by sanitary wastes, sediment, debris, and other substances resulting from construction activities as outlined in their Storm Water Pollution Prevention Plan (SWPPP). No sanitary wastes will be permitted to enter any drain or watercourse other than sanitary sewers. No sediment, debris, or other substance will be permitted to enter sanitary sewers and reasonable measures will be taken to prevent such materials from entering any drain or watercourse.

I-D1-9. Clean Up

Contractor shall keep the premises free at all times from accumulations of waste materials and rubbish. Contractor shall provide adequate trash receptacles about the site, and shall promptly empty the containers when filled.

Construction materials, such as concrete forms and scaffolding, shall be neatly stacked by Contractor when not in use. Contractor shall promptly remove splattered concrete, asphalt, oil,

paint, corrosive liquids, and cleaning solutions from surfaces to prevent marring or other damage.

Volatile wastes shall be properly stored in covered metal containers and removed daily.

Wastes shall not be buried or burned on the site or disposed of into storm drains, sewers, streams, or waterways. All wastes shall be removed from the site and disposed of in a manner complying with local ordinances and antipollution laws.

I-D1-10. Coordination of Work with Street Development

Street development work such as grading and laying of base rock and asphalt shall be coordinated with water and sewer facilities installation such that the integrity of installed pipe and connecting joints is not adversely affected. Pressure testing of water and sewer mains shall be performed after road base rock has been installed and compacted. In the opinion of the Inspector, if any street development work following a passing test has adversely affected the water or sewer Work, then the Contractor shall be required to conduct additional pressure tests. If damage has occurred, then the Contractor will be responsible to repair the damage and pay the District for the cost of additional tests.

I-D1-11. Lines and Grades

All Work shall be done in accordance with the lines, grades, and elevations shown on the Improvement Plans.

Basic horizontal and vertical control points will be established or designated by Applicant's Engineer. These points shall be used as datum for the Work. As a part of the Work, the Applicant's Engineer or Contractor shall perform all additional survey, layout, and measurement work.

Applicant's Engineer or Contractor shall provide experienced instrument personnel, competent assistants, and such instruments, tools, stakes, and other materials required to complete the survey, layout, and measurement work. In addition, Applicant's Engineer or Contractor shall furnish, without charge, competent personnel and such tools, stakes, and other materials as may be required in establishing or designating control points, in establishing construction easement boundaries, or in checking survey, layout, and measurement of work performed by Contractor.

Contractor shall keep the Applicant's Engineer informed, a reasonable time in advance, of the times and places at which the Contractor wishes to do Work, so that horizontal and vertical control points may be established, and any checking deemed necessary by Applicant's Engineer may be done with minimum inconvenience to the Applicant's Engineer and minimum delay to the Contractor. Contractor must supply cut sheets to the District Inspector prior to commencement of any work.

Prior to extension of water and sewer services, fire hydrants, and other appurtenances to be located behind the curb, Contractor shall provide all construction staking necessary to adequately

locate the curb, gutter, fire hydrants, and water and sewer pipes, services, and appurtenances. Contractor shall remove and reconstruct Work that is improperly located.

I-D2. CLEARING AND GRUBBING

Clearing and grubbing, which consists of removal of objectionable material from the right-of-way, shall be done with caution such that existing improvements and trees and shrubbery that are not to be removed are protected from injury or damage.

Within easements or rights-of-way, trees, shrubs, fences, and all other improvements that have to be removed to permit construction, shall be replaced in kind and size (excluding native trees under two (2) inch diameter or native brush) or with approved substitutes, unless permission to exclude such replacement is obtained from the property owner.

I-D3. EXISTING PAVEMENT REMOVAL

Removal of existing pavement shall be done in a manner prescribed by the city or county having jurisdiction, or the governing state agency. In addition to the pavement removed for the trench, an additional six (6) inches on each side of the trench shall be removed prior to repaving. The pavement shall be cut on neat lines prior to excavation, parallel to the trench at the width required. Any pavement damaged outside these lines shall be restored at the Contractor's expense.

I-D4. EXCAVATION AND TRENCHING

I-D4-1. General

Trench excavation shall consist of all excavation involved in the grading and construction of the sewer or water line as shown on Improvement Plans. The Contractor shall perform all excavation of every description and of whatever substances encountered, to depths indicated on the Improvement Plans or as otherwise specified or required. Unless otherwise indicated, excavation shall be by open cut except that short sections of a trench may be tunneled if, in the opinion of the District, the pipe or duct can be safely and properly installed and backfill can be properly compacted in such tunnel sections.

If blasting is necessary, the Contractor shall notify the District and the City of the blasting schedule and procedures, and obtain a blasting permit. All reasonable precautions in protecting life and property shall be observed.

Trench excavation shall only be conducted after pipe and other necessary materials are delivered to the work site.

Holes and depressions for bells or couplings shall be excavated after the trench bottom has been graded and embedment material placed, and shall be only of such length, depth, and width as required for properly making the particular type of joint. Over excavations shall be backfilled with the same material as the bedding zone.

The trench bottom shall be of even grade such that it will provide uniform bearing and support for each section of pipe and shall be free of clods, rocks, and excess spoil material. Grades shall be transferred from ground surface to the bottom of the trench by experienced workers using not less than three (3) consecutive grade points in common so that variations from a straight grade can be readily detected.

I-D4-2. Trench Width

The width of unsheathed trenches shall not be greater than sixteen (16) inches plus the exterior diameter of the pipe barrel, nor less than six (6) inches plus the exterior pipe diameter. Where shoring is required, the width of trench shall be increased only sufficiently to accommodate the sheeting or shoring. Whenever the maximum allowable trench width is exceeded for any reason, the Contractor shall, at its expense, embed or cradle the pipe in concrete in a manner satisfactory to the District Engineer.

I-D4-3. Trench Depth

Unless specifically authorized by the District Engineer, trench depth shall always allow a four (4) foot minimum cover over all water mains and five (5) foot cover for sewer mains. For cases where minimum cover cannot be maintained, the Applicant's Engineer shall follow design requirements of Section I-C4.

I-D4-4. Maximum Length of Open Trench

Unless otherwise specified or directed by the District Engineer, the maximum length of open trench shall be one (1) block, four-hundred (400) feet, or the distance necessary to accommodate the amount of pipe installed in a single day, whichever is shorter. The distance is the collective length of any location, including open excavation, pipe laying and appurtenant construction and backfill, that has not been temporarily resurfaced. Failure by the Contractor to comply with the limitations specified herein may result in an order to halt progress of the Work until compliance has been achieved. No trenches shall remain open overnight unless covered by steel plates capable of sustaining expected wheel loads.

I-D4-5. Unsuitable Material on Bottom of Trench

Where, in the opinion of the District Engineer, the bottom of the excavation will not afford the pipe a firm and uniform bearing because of rock, hardpan, shale, or any other material which cannot be readily excavated, the Contractor shall excavate a minimum of six (6) inches below the bottom surface grade of the pipe, refill the trench with pipe embedment material specified herein in Section I-D6-1, and consolidate and reshape the trench bottom to the required section and grade.

Where the material at the bottom of the excavation is of soft or unstable material, or is otherwise considered unsuitable for the support of the pipe, the Contractor shall overexcavate to an additional depth as required by the District Engineer. Backfill to the required grade with 1-1/2

inch crushed drain rock wrapped in geotextile filter fabric per Caltrans Section 88, with twelve (12) inch overlaps, to afford the pipe a firm and uniform bearing. The Contractor shall consolidate and reshape trench to required section and grade.

I-D4-6. Overexcavation or Inaccurate Trimming

Wherever, due to overexcavation or inaccurate trimming caused by carelessness in operation of the Contractor's equipment or workers or other reasons, the shaping of the trench is inadequate to afford the pipe a firm and uniform bearing, the Contractor shall, at its own expense, refill the trench with backfill material, specified herein, and consolidate and reshape the trench bottom to the required section and grade.

I-D4-7. Shoring

The Contractor shall furnish, put in place, and maintain such sheeting or shoring, etc., both in open cut and tunneling, as may be required to support the sides of the excavation and prevent any movements which could in any way injure any structure.

All excavations shall be supported in the manner set forth in the rules, orders, and regulations prescribed by the Industrial Accident Commission of the State of California. All shoring of trenches shall comply with the Division of Industrial Safety (OSHA) standards.

The Contractor shall be responsible for any injury which may result to any person(s), structure(s), or to any interests whatsoever that is due directly or indirectly to the insufficiency of said sheeting or shoring, or to the replacing or removal of said sheeting or shoring.

I-D4-8. Control of Water

The Contractor shall remove all water that may accumulate in the excavation during the progress of the Work so that all Work can be done under dry conditions. Trenches or other excavations shall be kept free from water while the pipe or structures are installed, while concrete is setting, and until backfill has progressed to a sufficient height to anchor the Work against possible flotation or leakage. Water shall be disposed of in such a manner as to cause no injury to public or private property or to be a nuisance or menace to the public health and in accordance with any State of California Regional Water Quality Control Board ("RWQCB") permits.

I-D4-9. Excavated Material

Excavated materials shall be stored so as to offer minimum obstruction to traffic and the normal use of adjacent properties. Material suitable for backfilling shall be piled in an orderly manner a sufficient distance from the banks of the trench to avoid overloading and to prevent slides and cave-ins. Gutters shall be kept clear, or other provisions shall be made for handling drainage. Free access must be provided to all fire hydrants, water valves, meters, manholes, and private drives. Material shall be removed from the site when determined to be excess or unfit for use. The Contractor shall not dump material on any private or public property without the permission of the owner thereof.

I-D4-10. Excavation in Public Rights-of-Way

Excavation and trenching in the public streets and highways shall conform to the requirements of the agency having jurisdiction, e.g., Cities of Dublin and/or San Ramon or Counties of Alameda and/or Contra Costa.

I-D5. PIPE LAYING

Contractor shall properly assemble all pipe and provide an installation true to line and grade and free from leaks, cracks, and obstructions.

Each length of pipe shall be laid on compacted, approved bedding material as specified in I-D6-1 and shall have full bearing for its entire length between bell holes excavated in said bedding material to allow for unobstructed assembly of all joints. Adjustments of pipe to line and grade shall be made by scraping away or filling in and tamping approved material under the body of the pipe. No wedging or blocking with wood or soil to support the pipe will be permitted. Under no circumstances will Contractor be allowed to dump backfill materials on top of a pipe that is not continuously supported in its final grade position.

Each section of pipe and each fitting shall be thoroughly cleaned before it is installed. All pipe, fittings, valves, etc., shall be carefully lowered into the trench by suitable tools or equipment, in such manner as to prevent damage to the pipe, lining, coating, fitting, or other appurtenances. Damage to lining or coating shall be repaired to the satisfaction of the District Engineer before the pipe or fitting is installed or backfilled.

The pipe shall be laid true to line, with no visible change in alignment at any joint, unless curved alignment is shown on the Improvement Plans.

When curved alignment is shown on the Improvement Plans, the maximum deflection at any joint shall not exceed the manufacturer's recommendation for the type of pipe and point being used.

Pipe joints shall be made only with the couplings and rubber rings furnished with the pipe, and aligned and constructed in the trench in accordance with the manufacturer's instruction manual. "Stabbing," "Swinging In," or "Popping On" spigot ends of pipe into bell ends will not be permitted.

Pipe shall not be laid when the District Engineer or Inspector determines that the condition of the trench or weather is unsuitable. As Work progresses, the interior of the pipe shall be cleared of all dirt and extraneous materials.

At the close of each day's work, and at such other times when pipe is not being laid, the end of the pipe shall be protected with a close-fitting stopper. Whenever the Work ceases for any reason or when the pipe is constructed with end not joined to an existing pipe or structure, it shall be closed by a cap or plug, tightly sealed in place.

I-D6. PIPE EMBEDMENT

Pipe embedment material shall be free of organic material, recycled material, including recycled aggregate base, and other deleterious substances. Pipe embedment material shall be of such nature that it can be compacted to form a firm, stable base.

There shall be two (2) standard main pipe embedment classes: A and B as shown on Drawing G-l. Class A pipe embedment is characterized by use of arch encasement and imported aggregate, and shall be required under special circumstances of shallow cover and excessive loads. The required reach of Class A pipe embedment shall be indicated on the Improvement Plans. Class B pipe embedment shall be used for all plastic pipes, vitrified clay and ductile iron pipe, and is characterized by use of imported aggregate extending from three (3) inches below the bottom surface of the pipe to twelve (12) inches above the top surface of the pipe as shown in the Drawings. The remaining pipe embedment to twelve (12) inches above top surface of the pipe shall be select material from excavation. Select material shall be free of organic or other unsuitable materials and shall not include rocks, boulders, or unbroken masses of soil larger than four (4) inches in greatest dimension.

The concrete encasement section as shown in Drawing G-2 shall be used when pipe cover is three (3) feet or less, or when pipes are installed under a concrete slab, footing, or foundation.

These definitions shall apply to the entire length of the pipe including the barrel and bell. As the pipe surface varies at the bell section, the pipe embedment zone shall accordingly vary to maintain the above required pipe embedment material thickness surrounding the surface of the pipe.

I-D6-1. Class 2 Aggregate Base

Pipe embedment material shall be ¾-inch maximum aggregate and shall conform to the grading and quality requirements of Class 2 aggregate base as specified in Section 26 of the State of California Department of Transportation ("DOT") Standard Specifications, latest edition shown in the following tables, except that no recycled material is allowed.

Table 1. Aggregate Grading Requirements For 3/4-inch, Class 2 Aggregate

Sieve Sizes	Percentage Passing	
	Individual Test Results	Moving Average
2 inch	--	--
1-1/2 inch	--	--
1 inch	100	100
¾ inch	87-100	90-100
No. 4	30-65	35-60
No. 30	5-35	10-30
No. 200	0-12	2-9

Table 2. Quality Requirements For 3/4-inch, Class 2 Aggregate

Tests	Individual Test Results	Moving Average
Resistance (R value)	78 min.	--
Sand equivalent	22 min.	25 min.
Durability index	35 min.	--

Evaluation of test results, with moving averages specified, shall conform to the applicable provisions of "Statistical Testing" of DOT Standard Specifications, latest edition.

Coarse aggregate (material retained on the No. 4 sieve) shall consist of material of which at least 25 percent by weight shall be crushed particles as determined by California Test 205.

The aggregate shall not be treated with lime, cement, or other chemical material before the durability index is performed.

I-D6-2.Class 1 Embedment

Pipe embedment material for service lines shall be Class 1 embedment. Class 1 embedment shall be clean, sound and durable natural or crushed sand, with sand equivalent value of no less than 30 per California Test 217. When tested in accordance with ASTM C136, Class 1 embedment shall conform to the grading requirements in Table 3 below.

Table 3. Grading Requirements Class 1 Backfill

Sieve Sizes	Percentage Passing
¾ inch	100
No. 4	70-100
No. 8	30-100
No. 200	0-5

Measured resistivity of material passing the No. 4 sieve, using a soil resistivity box in accordance with ASTM G57, shall not be less than 3000 ohm-cm.

Soil pH shall not be less than 6.5, as measured in accordance with ASTM G51.

I-D6-3. Controlled Density Fill

At the discretion of the District Engineer, controlled density fill ("CDF") may be substituted for Class 2 aggregate base above the invert of the pipe. The controlled density fill shall conform to the following:

CDF shall be manufactured in accordance with the following reference standards. It shall be a hand-excavatable mixture of aggregate, cement, Pozzolan, water and admixtures to be used as fill material where indicated in this Specification and on the Improvement Plans.

CDF material shall have the following properties:

1. Cement shall be Type II in accordance with ASTM C150.
2. Pozzolan shall be Type F in accordance with ASTM C618.
3. Coarse aggregate shall consist of a well-graded mixture of crushed rock, soil, or sand with a maximum size aggregate of three-eighths (3/8) inch. One hundred (100) percent shall pass the half (½) inch sieve. Not more than thirty (30) percent shall be retained by the three-eighths (3/8) inch sieve and not more than twelve (12) percent shall pass the No. 200 sieve. All material shall be free from organic matter and not contain more alkali, sulfates, or salts than the native soils at the site of the Work.
4. Air entraining shall be used to improve the workability of the mixture in accordance with ASTM C260. Entrained air content shall be between eight (8) and twenty (20) percent.
5. A water reducing agent shall be added to improve the workability and shall be in accordance with ASTM C494.
6. Water shall be potable, clean and free from objectionable quantities of silty organic matter, alkali, salts, and other impurities.
7. CDF shall be flowable material similar in all respects to Pozzolanic International Flowable Compacting Fill by RMC Lonestar, or equal. The 28-day compressive strength shall be between fifty (50) and one hundred fifty (150) psi.

I-D6-4. Placement and Compaction

Before placement of embedment material, the trench shall be cleared of all timber and debris, leveled and checked for specified cut. Bottom embedment material shall be placed in the trench to the full width of excavation, leveled and compacted to the specified compaction. After the pipe has been properly laid and inspected to the satisfaction of the District, embedment material shall be hand shoveled and uniformly distributed on both sides of the pipe. Sufficient material shall be hand shoveled to securely anchor the pipe so that no change in alignment or grade will occur when the next section of pipe is installed. Embedment material shall not be dropped directly upon the pipe

With the exception of jetting or flooding, which shall not be allowed unless specifically approved by the District Engineer, the Contractor shall choose the compaction device to obtain a relative compaction of ninety (90) percent in the pipe zone as defined by AASHTO Test No. T180 (Standard Proctor). All compaction testing within the pipe zone shall be performed by a District approved, certified soils inspector. The compaction device may either be manually, mechanically, or pneumatically driven; however, the compaction device used shall in no manner cause displacement, instability or damage to the pipe. In such an event, the Contractor shall be responsible for all necessary repairs.

Except for directly above the pipe, compaction lifts shall be limited to six (6) inches within the pipe zone. For embedment material placed directly above the pipe, the compaction lift shall be of sufficient depth to achieve required compaction and protect the pipe. All compaction layers shall be compacted as required before the next layer is deposited.

The Inspector shall examine the embedment material to assure that it has been uniformly compacted throughout the entire pipe zone and that no voids exist. A minimum of one compaction test per five hundred (500) feet of pipeline shall be performed at Contractor's expense by an independent testing laboratory. If there is any indication that the required compaction has not been achieved the trench shall be recompacted and retested. The Applicant or Contractor shall pay for recompaction and retesting.

During the process of backfilling embedment material, any timbering, sheeting, shoring, and sheet piling used to shore the excavation shall be carefully removed by the Contractor in such a manner as will result in a minimum of caving, lateral movement, or flowing of the soil. On approval of the District Engineer, the Contractor may leave in place sheet piling, sheeting, and bracing.

I-D7. BACKFILL AND COMPACTION

I-D7-1. Public Streets and Highways

Where trench backfill and compaction above the pipe embedment zone is performed in public streets and highways, the Contractor shall comply with all requirements of the governing city or agency. The pipe embedment zone to one (1) foot over the top of the pipe is under the jurisdiction of the District.

I-D7-2. Unimproved Rights-of-Way

Trench backfill above the pipe embedment zone shall be select material from the excavation approved by the District Engineer. Select material shall be free of organic or other unsuitable materials and shall not include rocks, boulders, or unbroken masses of soil larger than four (4) inches in greatest dimension.

Trench backfill shall be compacted to ninety (90) percent relative compaction using AASHTO Test No. T180 (Standard Proctor). If for any reason this degree of compaction cannot be achieved, then imported backfill material meeting the above requirements shall be used. All costs of providing and placing the imported material shall be the responsibility of the Applicant or Contractor.

I-D8. BORING AND JACKING OPERATIONS

Placement of pipe by boring or jacking methods requires special District approval for each instance. However, as a general guideline, the following shall pertain:

1. Except for the use of air or water, the methods and equipment used in boring and jacking operations shall be at the option of the Contractor, provided that the District reviews them prior to any work.
2. The placement of pipe shall be to the lines and grades shown on the Improvement Plans.
3. Voids remaining outside the pipe (or carrier pipe if applicable) shall be backfilled with grout.
4. Where a casing pipe is used, it shall be no less than eight (8) inches greater in diameter than the sewer pipe or water pipe to be installed.
5. The placement of pipe in casings shall be supported with redwood skids, shims, or wedges to the lines and grades shown on the Improvement Plans. Skids shall be notched so strapping will not scrape off interior coating.
6. Pipe installed in casings shall have restrained joints. See water system requirements for acceptable joint types. Pipe shall be pulled through casings unless otherwise approved by the District Engineer.

I-D8-1. Bores

The boring machine shall cut a true circular bore to the required line and grade. The bored tunnel shall be no more than two (2) inches larger in diameter than the maximum outside diameter of the casing or pipe to be installed.

I-D8-2. Jacked Steel Crossings

1. In addition to applicable portions above, the following shall pertain:
2. Where casings are used, the size and wall thickness of the casing shall be at the Contractor's option, except that the minimum casing thickness shall be not less than three-eighths (3/8) inch.
3. Field joints of steel casings shall be welded with a continuous circumferential weld.
4. The placement of pipe in casings shall be supported with redwood skids, shims, or wedges to the lines and grades shown on the Improvement Plans.
5. Prior to backfilling the annular space between the pipe and casing, the pipeline shall be tested in accordance with Section II-B3, III-B4 or IV-B3 Testing.
6. The annular space shall be backfilled with washed concrete sand blown or rammed into place until the entire cavity is filled. Concrete bulkheads shall be placed at each end of the cased section to retain the backfill material.

I-D9. RESURFACING AND RESTORATION

I-D9-1. General

Where an unimproved surface is encountered, the trench shall be restored to its original surface, unless otherwise indicated on the Improvement Plans.

If the Work has disturbed or damaged existing private streets, alleys, driveways, or other improved surfaces, the damaged portions shall be removed and restored, including the provision of adequate subgrade where these operations have disturbed the original materials.

Any temporary paving, barricades, or special provisions required by public agencies shall be furnished by the Contractor as required.

I-D9-2. City or Other Governing Agency Requirements

If the Work is within existing city or county streets or other public roadways, any required resurfacing shall be in accordance with the city, county or other governing agency requirements.

If the Work shall occur in streets where no paving exists, the Contractor shall, in accordance with city and other governing agency requirements, leave the completed trenches in a suitably compacted condition for future finish grading, placement of base material, and paving.

I-D9-3. District Requirements

The requirements in this section shall apply if, and only if, there are no city or other governing agency requirements.

Aggregate base, paving materials, and methods of placement shall be in accordance with the most recent edition of State of California Department of Transportation Standard Specifications. Where a gravel surface is encountered, it shall be replaced over the width of the trench with Class 2 aggregate base eighteen (18) inches in depth if within eight (8) feet from the edge of a paved road. If greater than eight (8) feet from the edge of a paved road, the surface shall be restored with six (6) inches of Class 2 aggregate base.

Where existing surface is some type of asphalt concrete, it shall be restored with a temporary surface followed by a permanent surface as specified herein.

I-D9-3.01. Temporary Paving

Temporary surfacing shall be Class 2 aggregate base, equal in depth to the existing pavement structural section but in any case, not less than eighteen (18) inches in depth, plus one and one half (1-1/2) inches of premixed asphaltic paving material.

In areas used by public traffic, the temporary paving must be placed at the end of each workday. All other areas shall be surfaced within two (2) days after backfilling.

Before street is opened for traffic, all excess dirt, rock, and debris shall be removed and the street surface shall be swept clean. Temporary surfacing shall be maintained constantly so that at no time will there be any mud holes, nor shall the surface settle below one (1) inch, nor be raised more than one (1) inch from the existing pavement.

I-D9-3.02. Permanent Paving

Permanent paving shall not be constructed until the compaction requirements of these Standards are satisfied.

The existing pavement shall be neatly cut to a depth of two (2) inches and removed to at least six (6) inches outside each edge of the pipe trench to permit proper keying in the restored pavement. The existing pavement cut shall be straight, vertical, and with no ragged edges.

The base course for permanent surfacing shall be Class 2 aggregate base as specified in the above State of California Department of Transportation ("DOT") Standard Specifications. The aggregate base shall be equal to the existing pavement structural section less three (3) inches but in any case, not less than sixteen (16) inches in depth.

The aggregate base shall be given a penetration treatment as specified in Section 37 of the State of California DOT Standard Specifications. Liquid asphalt used for the treatment shall be grade SC-70. The rate of application of the liquid asphalt shall be the maximum that will, under favorable weather conditions, be completely absorbed by the base material within twenty-four (24) hours from the time of application. A sufficient amount of liquid asphalt shall be applied to bind the aggregate base and prevent raveling. Care shall be taken so that liquid asphalt is applied to the adjoining pavement surface.

The wearing surface for permanent surfacing shall be asphalt concrete. The depth of the asphalt concrete shall be as required by the local agency having jurisdiction or match existing, with a minimum depth of three (3) inches. The asphalt concrete shall be "Type B-Asphalt Concrete" conforming to the requirements of Section 39 of the State of California DOT Standard Specifications.

I-D10. CONCRETE AND MORTAR WORK

I-D10-1. Concrete

I-D10-1.01. Material

Concrete used for thrust blocks, manholes, encasements, filling, blocking, piers, and other typical construction applications shall be transit-mixed concrete from a supervised batch plant which issues a certified delivery ticket with each load, showing the mix proportions, mixing time, true departure time and water added. Such certified tickets will be handed to the Inspector at the time of delivery. Ready-mixed concrete shall be batched and handled in accordance with ASTM C94. Job-mixed concrete shall be limited to that needed for patching and minor nonstructural uses requiring one sack of cement or less. In these cases, the materials and workmanship shall be the same as if transit-mixed concrete had been used.

Approved concrete material shall be Portland Cement concrete as specified in Section 90 of the DOT Standard Specifications and shall be chosen according to the following chart showing its intended use:

Class	Application	Min. Weight of Portland Cement, lbs/cy	Maximum Aggregate Size, Inches	Slump Inches	
				Min	Max
A	Walls, drop structures, slabs, and reinforced structural encasement	564 (6 sack)	1-1/2"	3"	6"
B	Manhole bottoms, thrust blocks, drop pipe encasement, pipe bedding, nonstructural use	470 (5 sack)	1-1/2"	2"	6"
C	Pump mix for abandoning lines	376 (4 sack)	3/8"	--	--

Type V cement shall be used for concrete material used in any structure subject to sulfide deterioration.

The 28-day compressive design strength of concrete shall be chosen according to its intended use as outlined above.

I-D10-1.02. Placement

Concrete shall be placed in clean forms before its initial set begins, using the minimum amount of mixing water required for good workability. Concrete shall be worked into forms by rodding or vibrating to secure a dense homogeneous mass, free from voids and rock pockets. All concrete shall be vibrated unless the Inspector approves solely rodding to avoid having the concrete run out of the forms or trench.

I-D10-1.03. Finish

Concrete surfaces to be in contact with sewage shall be steel trowelled to a smooth hard surface, free from ridges, holes, and surface roughness. Exposed walls shall be left with a surface finish comparable to that obtained with new plywood forms. Slabs and walkways shall be finished with a wood float unless otherwise specified on the Improvement Plans. Corners and edges shall be neatly beveled. Surface defects shall be repaired to match the surrounding concrete.

I-D10-1.04. Accelerated Curing

Calcium chloride not in excess of two (2) percent volume will be permitted when, in the District Engineer's opinion, circumstances warrant its use.

I-D10-2. Mortar

Mortar shall consist of commercial grade non-shrink grout.

I-D11. REINFORCING STEEL

Bar reinforcement shall be Grade 40 minimum deformed bars conforming to ASTM A615, accurately placed and secured in position to accomplish the intent of the design plans. Where bars are spliced they shall be lapped at least twenty (20) diameters or butt welded, except where otherwise shown on the Improvement Plans.

Mesh reinforcement shall conform to the requirements of ASTM A185; wire gauge and mesh dimensions will be as shown on the Improvement Plans.

I-D12. ABANDONMENT

In absence of more stringent encroachment permit requirements administered by the local governing agency; all water and sewer main abandonment's shall be in accordance with the below requirements, and these specifications.

Pipe mains greater than six (6) inches and indicated on the Improvement Plans to be abandoned shall be filled with a sand or sand and cement slurry mixture.

Sewer mains of all sizes to be abandoned shall be capped at each end. Sewer mains constructed of PVC or ductile pipe shall be abandoned in accordance with abandonment of water mains below. Existing sewer service lines that are attached to an active sewer main shall be abandoned by excavating the service connection at the main and disconnecting the service pipe at the main. The sewer main shall be capped or plugged with like material at the wye or tee connection.

Water mains of all sizes indicated on the Improvement Plans to be abandoned shall be cut and capped, or plugged, at each end as indicated on the drawings. Existing water service lines that are attached to an active water main shall be abandoned by excavating the service connection at the main; removing the corporation stop and disconnecting the service pipe at the main; and inserting a plug at the saddle. Water main valves shall not be abandoned in place. All water main valves indicated on the Improvement Plans to be abandoned shall be physically removed from service, and replaced with a blind flange, cap or plug as indicated on the plans.

Manholes, valve boxes, and other underground appurtenances to be abandoned shall be removed to at least three (3) feet below finished grade. All remaining cavities shall be filled with sand to the cut elevation and the excavation backfilled and restored to finish grade as required.

I-D13. LOCATION MARKINGS

All water service assemblies, valves, blowoffs, side sewers, and manhole locations shall be clearly indicated on the street curb at the time of the street curb installation as per the legends in

Drawing G-4. Size of lettering shall be at least two (2) inches high. If there is no curb marker, posts per Drawing G-4 shall be constructed.

SECTION III

SEWER SYSTEM REQUIREMENTS

SECTION III

SEWER SYSTEM REQUIREMENTS

SECTION III-A - DESIGN CRITERIA

III-A1. SEWER MAIN SIZING

Sewer mains shall be sized using Manning's Formula and the following input criteria as variable parameters in Manning's Formula.

1. Design sewage flow.
2. Manning's "n" value of 0.013.
3. Minimum and maximum velocity.
4. Minimum slope.

In addition, the minimum diameter for all sewer mains shall be eight (8) inches. Also, if a sewer main within an easement is over fifteen (15) feet deep, the District may require oversizing to facilitate future slip lining.

III-A1-1. Design Sewage Flow

Sewer mains shall be sized to provide sufficient capacity to accommodate future tributary flows in addition to the sewage flow from the project development. The Developer's Engineer shall consult with the District Engineer to become familiar with all master plan studies for determining future tributary sewage flows. The design sewage flow from the project development shall equal the total peak dry weather flow plus infiltration/inflow.

Peak dry weather flow shall be determined by multiplying the total average dry weather flow by a peaking factor. The peaking factor shall be obtained from the graph of peaking factor versus total average dry weather flow presented in Drawing S-1 of these Standards.

Average dry weather flow for residential projects shall be determined from the planned number of dwelling units and the following unit usage criteria.

Single family dwelling - 256 gpd/unit (80 gpcd with 3.2 persons/unit).
Multi-family dwelling - 160 gpd/unit (80 gpcd with 2.0 persons/unit).

Average dry weather flow for commercial projects shall be determined from the net acreage of the commercial development and the unit usage criteria of 2,500 gal/net acre/day. Average dry weather flow for industrial projects shall be evaluated on a case-by-case basis.

Infiltration/inflow in new areas only shall be determined from the gross acreage and the unit criteria of 600 gpd/gross acre.

For analysis of available capacity in existing sewer mains, the Developer's Engineer shall consult with the District Engineer and shall refer to all applicable master plan studies.

III-A1-2. Minimum and Maximum Velocity

Sewer mains shall be sized to provide a minimum velocity of two (2) feet per second when the sewer main is flowing half full.

The maximum velocity for sewer mains shall normally be eight (8) to ten (10) feet per second.

III-A1-3. Minimum Slope and Slope Changes

Minimum slope requirements are necessary to assure self-cleaning and self-oxidizing velocities to avoid significant generation of hazardous, odorous, and corrosive sulfur compounds. Where possible, use of the minimum slopes should be avoided and should not be construed as guidelines for system design. However, the District will accept the standard minimum slope. Standard minimum slopes used for sizing sewer mains shall be as follows:

Pipe Size (in.)	Standard Minimum Slope (foot per foot)
6	0.0049
8	0.0033
10	0.0025
12	0.0019
15	0.0014
18	0.0011
21	0.0009

If grades below the standard minimum must be used in order to avoid pumping, the Developer's Engineer shall consult with the District Engineer before proceeding with design. Grades below the standard minimum may be used only upon specific approval requested well in advance of completion of design.

To minimize the turbulence in manholes, the slope of any incoming sewer main shall not exceed the slope of the outgoing sewer main by more than ten (10) percent.

III-A2. LOCATION OF MAIN

III-A2-1. Location of Main in Streets

Wherever the physical limitations of the street and other utilities permit, the sewer main shall be located on the center line of the street.

III-A2-2. Building and Other Above-ground Structure Set Back from Mains

To minimize hazards to buildings and other above-ground structures when mains are repaired,

foundations or footings of buildings and other above-ground structures shall be set back a minimum of seven and one half (7.5) feet from the exterior wall of the sewer main.

The installation of mains less than seven and one half (7.5) feet from the building or above-ground structure shall be subject to the approval of the District Engineer. In such cases, polyethylene wrapped DIP shall be used. No service connection to the sewer main is allowed within five (5) feet of the building or structure foundation.

III-A2-3. Location of Main in Easements

Sewer mains shall generally be placed in the center of easements and only in unusual circumstances shall a sewer main be approved which is closer than five (5) feet from the easement edge. Unless specifically otherwise approved, sewer mains in easements shall be straight without horizontal bends or deflections.

III-A3. MINIMUM COVER

Minimum cover of all sewer mains shall be five (5) feet.

III-A4. HORIZONTAL AND VERTICAL CURVES

All sewer mains shall have straight alignment in both the horizontal and vertical plane between manholes. Horizontal curves shall be allowed only under special circumstances and by approval of the District Engineer. An installation shall be considered a special circumstance if there is a curved street section and deviation of the sewer main from the street center line presents problems with respect to maintaining required clearances from water mains and other utilities. If pipe curvature is allowed, then the recommended radius of curvature shall be four hundred (400) feet and under no circumstances shall be less than two hundred and fifty (250) feet.

III-A5. MANHOLES

III-A5-1. Distance between Manholes

The maximum distance between manholes from center line to center line shall be no greater than three hundred and fifty (350) feet for sewer mains equal in diameter to twenty four (24) inches or less. For sewer mains greater than twenty four (24) inches, the maximum distance between manholes shall be no greater than four hundred (400) feet.

III-A5-2. Location of Manholes

Unless otherwise approved, all manholes will be accessible to standard maintenance vehicles. Manholes placed in back or side yards will not be approved. Every reasonable effort shall be made to provide a paved or gravel roadway to manholes in open space areas.

Manholes shall be located at:

1. All abrupt grade changes.

2. All changes in horizontal alignment (except on curves).
3. All changes in pipe size.
4. The start of all sewer mains exceeding one hundred (100) feet in length from the next downstream manhole. In addition, manholes will be required in cul-de-sacs that have three (3) or more fronting lots. In cul-de-sacs, manholes shall be located no less than fifteen (15) feet from the curb line. No more than three (3) sewer laterals shall connect into any one manhole. The manhole shall be located such that the angle in the horizontal plane between the downstream and any one lateral sewer is not less than ninety degrees (90°).
5. All sewer main junctions.
6. The point of tangency of each reverse curve. (No reverse curves will be allowed between manholes, except where the District determines that the nature of the reverse curve is not significant or detrimental to the system.)
7. At the connection of a six (6) inch or larger service lateral connected to an equal or larger diameter sewer main.
8. All mains shall end in a manhole. This requirement also includes dead end mains
9. All changes in pipe materials.

In general, manholes shall not be located in the street where rainfall runoff is directed to the manhole. If this is unavoidable, then pressure (watertight) frames and covers shall be installed.

III-A5-3. Slope of Manhole Channels

When sewers of uniform size and slope pass through a manhole, the slope shall be maintained and the invert at the center of the manhole shall be given. In sewers that change slope, the slope of the incoming sewer(s) shall be carried through to the outlet and the invert elevations at the inlet(s) and the outlet shall be given. Where diameters of sewer pipes change, the elevations of the top of the incoming and outlet pipes shall match.

When the incoming sewer makes an angle of 45 to 90 degrees with the outlet sewer, add 0.10 feet to the calculated manhole elevation drop. When the angle is 15 to 45 degrees, add 0.05 to the calculated value.

III-A5-4. Drop Manholes

While not encouraged, drop manholes may be required because of some physical constraints; they should not, however, be used to merely avoid extra depth in trench unless unusual circumstances exist. All proposed drop manholes must be approved by the District Engineer. Where approved, the drop shall not exceed ten (10) feet and shall be constructed in accordance with Drawing S-3. Whenever possible, upstream slope changes should be used to avoid the need for a drop manhole.

III-A5-5. Manholes in Undeveloped Areas

Manholes in undeveloped areas shall require special protection as required in sewer materials of construction Section III-B1 and as shown on Drawing S-6.

III-A5-6. Rim Elevations of Manholes

Top elevations for all manholes shall be shown on the profile. In paved areas, the manhole rim elevation shall match the finished grades. In other than paved areas or traveled way, the height of the manhole rim will normally be eighteen (18) inches above the finished grade, high water mark, or above the top of future fill areas. The elevations shown for the tops of manholes on the Improvement Plans shall not relieve the contractor from making final adjustments to match street surfaces.

III-A5-7. Design and Size

Standard manholes shall be concentric and in accordance with Drawing S-2. Normally, manholes will be four (4) foot diameter; five (5) foot diameter manholes are required for lines eighteen (18) inches and larger or where the depth to pipe invert exceeds ten (10) feet. Where the depth exceeds eighteen (18) feet or diameter exceeds eighteen (18) inches, the cover (lid) shall be thirty (30) inches for safety reasons. A shallow manhole in conformity with Drawing S-4 may be used upon approval of the District Engineer when a sewer main or lateral is less than minimum cover.

III-A5-8. Sampling Manholes

A sampling manhole shall be required on all nonresidential building service laterals. It shall be in a location accessible to District personnel at all times and within the private properties of developers, as directed by the District Engineer. It may be considered as a cleanout in lieu of a separate cleanout. Sampling manholes shall be constructed as shown on Drawing S-11.

Metering manholes, when required by the District for nonresidential building service laterals, shall also be constructed as standard manholes conforming to Drawing S-2 except: 1) they shall be on a straight run of pipe through the manhole with no angles or branches; 2) the slope through the manhole shall be a maximum of two (2) percent; and 3) pipe slope shall be held constant for fifteen (15) feet upstream of the manhole and through the manhole. For laterals four (4) inch to six (6) inch, a minimum of ten (10) feet of the pipe upstream of sampling manhole shall be a straight run. For laterals larger than six (6) inches, a minimum of fifteen (15) feet of the pipe upstream of the sampling manhole shall be a straight run. The downstream portion of the pipe shall have a two (2) foot minimum straight run.

III-A5-9. Sewer Pipe Stubs

Stubs shall be designed and installed in all manholes, from which future sewer line extensions are anticipated. Pipe stubs shall be a minimum of eight (8) inches in size, or as directed by the District Engineer, and shall be of an approved type of pipe. Stubs shall protrude one (1) foot outside of the manhole base and shall be plugged with a standard watertight plug or cap.

III-A6. DEAD END MAINS AND CLEANOUTS

All dead end mains shall terminate at a manhole. Rodding inlets are not allowed.

Cleanouts shall be provided in side sewer systems under the following cases.

1. At the point of connection to the house piping of single family residences.
2. At the property or easement line on side sewers serving commercial, industrial, and multi-family complexes.
3. At any single turn greater than forty-five degrees (45°).
4. At intervals along the side sewer system where the accumulative total of deflections from the point of connection to the main or from another cleanout exceeds one hundred thirty-five degrees (135°).
5. At intervals not to exceed one hundred (100) feet along the side sewer system.
6. Wherever a side sewer changes in size.

The cleanout shall be equal in size to the side sewer and shall be installed as per Drawings S-8 or S-l0 of these Standards.

III-A7. SIDE SEWERS

Each house and building shall have an independent side sewer shown on the Improvement Plans except for buildings located on a lot under one ownership. Under this exception, one side sewer may be shown, provided that the property cannot be subdivided, and upon approval of the District Engineer. Side sewers shall be installed in general conformity with Drawing S-8 of these Standards.

In tight areas, such as condominiums, the laterals may be installed with a vertical drop into the top of the side sewer (chimneyed) with the approval of the District Engineer. Long radius ninety (90) degree elbows shall be used.

III-A7-1. Size

Side sewers for single-family dwellings shall normally be four (4) inch minimum diameter unless the Uniform Plumbing Code requires a larger size. Side sewers less than a 4" diameter require approval of the District Engineer. Townhouses shall normally be required to have separate four (4) inch minimum diameter laterals, rather than one six (6) inch minimum diameter lateral per building. All other laterals for apartments, multi-level condos, commercial, institutional, or industrial users shall be sized as required by the Uniform Plumbing Code.

III-A7-2. Depth and Grade

Side sewers from the main sewer to the house or building line shall be constructed at a two (2) percent grade unless otherwise approved by the District Engineer. In addition, the depth five (5) feet from face of curb in the direction toward the house or building shall normally be five (5) feet minimum from top of pipe to ground surface.

Invert elevations for all side sewers shall be indicated on the Improvement Plans. As a minimum, the side sewer invert elevations at its upstream end and at the point five (5) feet from the face of the curb in the direction of the house or building shall be indicated.

All side sewers that cross above a water main or below within one (1) foot of a water main shall be subject to the State of California, Department of Health Services, Criteria for the Separation of Water Mains and Non-Potable Pipelines.

III-A7-3. Location

Location of lateral sewers in public road rights-of-way shall be in relation to the nearest corner of the property being served. Unless otherwise determined by physical controls, the lateral shall be located ten (10) feet from the lower property corner at the right-of-way line of hillside lots (3 percent + slope) and on the lot center line in relatively level terrain.

III-A7-4. Connection Angle and Maximum Deflection

All sewer laterals, from property line or edge of easement to the point of connection with the main line or a manhole, shall have an alignment that provides an angle of intersection with the downstream section of main sewer of no less than ninety degrees (90°). No lateral alignments adverse to the flow of the main will be permitted.

The maximum deflection at any one point in a side sewer, not including fittings at saddle or wye connection to main sewer or at angle points having cleanouts, shall be twenty-two and one-half degrees (22-1/2°) (1/8 bend) and any two (2) consecutive deflections (bends) shall not be less than two (2) feet apart.

III-A7-5. Overflow Protection

A sewer overflow protection device shall be installed on all sewer laterals. See Drawing S-8 for details regarding installation. Installation location shall be two (2) feet from the building foundation.

III-A7-6. Use of Existing Sewer

If Applicant proposes to connect to an existing sewer facility that is not in operation or has been abandoned, Applicant shall rehabilitate existing sewer facility such that it meets all requirements for new sewer construction.

Existing side sewers may be used for servicing new homes or buildings on a lot under single ownership only when the existing side sewers are found on examination and testing required by the District to meet all requirements for new sewer construction.

III-A7-7. Pipe Material

Side sewers for residential and general commercial service shall be VCP, PVC, ABS pipe, or HDPE. Cast iron pipe shall not be used.

Side sewers for industrial establishments shall be VCP or DIP. PVC may be allowed, but only by specific approval of the District Engineer. Use of cast iron pipe shall not be allowed for industrial establishments.

III-A8. PUMPING STATIONS

Pumping stations are not normally allowed. They may be considered under extraordinary circumstances, but only by specific approval of the District Engineer during the preliminary design stages.

III-A9. SPECIAL DESIGN CONSIDERATIONS

Depending on the angle of deflection, high or low points in a sewer main system may require the installation of air/vacuum relief valves or blowoffs, respectively. In the case of a low point (i.e., inverted siphon), additional manholes for access and cleaning may also be required. The District Engineer on a case-by-case basis will evaluate the need for such special and additional sewer appurtenances.

III-A10. GREASE AND SAND TRAPS, GREASE INTERCEPTORS

All building connections through which: (1) liquid wastes containing grease in excessive amounts; (2) sand; or (3) other harmful ingredients may be introduced into the District sewer system shall have a grease and sand trap or grease interceptor and sampling box installed as specified below and in accordance with Drawings S-12, S-12A, S-13, S-14 and S-15.

Restaurants: All restaurants and other establishments with common food preparation facilities shall have a grease interceptor on their side sewer, outside of building and easily accessible for cleaning and inspection, as appropriately sized and approved by the District Engineer.

The size of seven hundred fifty (750) gallons or ninety-six (96) cubic feet capacity is the minimum for a grease interceptor.
Volume of grease accumulation shall determine the size of the storage tank required as follows:

Type of Restaurant	**Average Grease Accumulation/Month**
A. High volume - full menu Open 12-24 hrs./day Over 500 meals/day	40 cu. ft.
B. Medium volume – full menu Open 8-16 hrs./day 100-400 meals/day	20-30 cu. ft.
C. Fast food, take-out, or pizza parlor	5-10 cu. ft.

Sizes required for a particular application are as follows:

Tank Size, gals.	Capacity, cu. ft.	Max Accumulation of Grease before Cleaning, cu. ft.
750	96	30
1,000	128	40
1,200	160	50
1,500	200	60
1,600	220	70
2,000	256	80
2,500	328	90
3,000	400	100
3,500	456	120

Other Commercial Business: If a vehicle wash-down area is provided, it shall be roofed and have a grease and sand trap per Drawing S-12 shall be installed. If a trash enclosure area within a commercial development is required to be connected to the sanitary sewer, the trash enclosure area shall have a roof and shall have a grease and sand trap per Drawing S-12A. Grading in the trash receptacle area shall be such that only run-off from within the receptacle area enters into the sewer for that area

Residential Apartment and Condominium Complexes: All apartment and condominium complexes shall have a roof over the trash receptacle area and shall have a grease and sand trap per Drawing S-12A serving run-off from the trash receptacle area.

All drains carrying harmful ingredients described herein shall be connected to the grease and sand trap or grease interceptor. All restroom facilities of such establishments shall be plumbed separately and connected to the building side sewer downstream of the trap or interceptor.

Grease interceptors shall be installed in such a manner that access for annual inspections shall be readily obtainable.

A sampling box shall be installed immediately downstream of the grease interceptor as shown in Drawing S-15.

III-A11. Mercury Amalgam Separators

Dental practices that generate amalgam wastes shall install an amalgam separator on the effluent line of the vacuum system(s) serving the facility prior to discharge to the sanitary sewer system.

The amalgam separator shall meet the ISO 11143 standards that are effective at the time of installation.

Dental practices may be exempt from this requirement providing the District receives written assurance that removal or placement of amalgam fillings occurs at the facility no more than three (3) days per year and the type of practice is one of the following:

- orthodontics
- periodontics
- oral and maxillofacial surgeon
- radiology; oral pathology of oral medicine
- endodontics and prosthodontics

SECTION III-B - CONSTRUCTION STANDARDS

III-B1. MATERIALS OF CONSTRUCTION

General materials of construction requirements are contained in Section I of these Standards. The sections that follow establish the specific material requirements for sewer pipe products, manholes, and other miscellaneous sewer appurtenances.

III-B1-1. Sewer Pipe and Fittings

Unless otherwise approved by the District Engineer, sewer pipe shall be limited to VCP, DIP, PVC pipe or HDPE pipe.

III-B1-1.01. Vitrified Clay Pipe ("VCP")

All VCP and fittings shall conform to the requirements of ASTM C700 as it applies to extra strength, unglazed VCP. Each section of pipe shall be clearly stamped with either the words "Extra Strength" or the letters "ES" designating the strength class. VCP joints shall either be plain end to plain end or bell and spigot conforming to ASTM C425. Plain end to plain end joints shall consist of banded rubber or elastomeric polyvinyl chloride couplings with corrosion resistant Type 316 stainless steel clamps and Type 305 bolts.

III-B1-1.02. Ductile Iron Pipe ("DIP")

All DIP and fittings for sewer work shall conform to the same specification requirements given for water work in Section II of these Standards.

III-B1-1.03. Polyvinyl Chloride Pipe ("PVC" Pipe)

PVC pipe and fittings for sizes 4-inch through 15-inch shall meet the requirements of ASTM D3034, SDR 26, cell classification 12454-B or 12454-C. PVC pipe and fittings for sizes 18-inch through 27-inch shall meet the requirements of ASTM F679, SDR 26, Wall T-l, cell classification 12454-C.

Bell and spigot joints shall meet the requirements of ASTM D3212 with integral bell push-on type elastomeric gasket joints. Field cut joints and connections to other piping materials shall be made with a mechanical compression joint composed of: a heavy duty synthetic rubber sealing component; two (2) Type 316 stainless steel clamps; Type 305 stainless steel nuts and bolts; and an adjustable stainless steel shear ring. Grouted connections to cast-in-place concrete manhole bases shall be made with a rubber ring water stop.

Pipe fittings having either spiral or concentric external reinforcing ribs will not be acceptable.

Installation of PVC pipe shall meet the requirements of ASTM D2321. All field cut PVC pipe shall be beveled and lubricated before joining.

III-B1-1.04. ABS Wall Pipe

ABS solid wall pipe shall be allowed upon specific approval of the District Engineer for four (4) inch residential side sewers. ABS pipe and fittings shall conform to ASTM D2751 with an SDR minimum value of 26.

III-B1-1.05. HDPE Pipe and Fittings

HDPE pipe shall conform to ASTM F714-94, "Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter," or ASTM D3035-93 "Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter."

HDPE pipe shall have a Plastic Pipe Institute (PPI) material designation of PE 3408, a cell classification of PE 345434C per ASTM D3350, and have an established hydrostatic design basis of 1600 psi at 73 degrees F.

All HDPE fittings shall be manufactured from the same resin type, grade, and cell classification as the pipe, and shall be fully pressure rated.

HDPE pipe joints shall conform to the requirements of Section II-B1-1.05 of this specification.

III-B1-2. Manholes

This section covers the materials of construction for standard, drop, shallow, and sampling/metering manholes. All manholes shall be constructed of precast reinforced concrete concentric cone sections with a minimum access opening of twenty-four (24) inches. Eccentric cones may be used upon specific approval by the District Engineer. Material specifications are as follows:

Manhole Component	Material Specification
Concrete	Materials, handling, finishing, and curing as specified in concrete Section I-D10-1. Manhole bottom shall be Class B concrete.
Precast Sections	Circular precast concrete, ASTM C478 except as modified. Vacuum tested.
Medium thickness	Six (6) inches.
Reinforcement	As indicated on Drawings S-2, S-3, and S-4.
Openings	Circular with surfaces grooved or roughened to improve mortar bond.
Mortar	Commercial strength non-shrink grout.
PVC Pipe Waterstop	1 inch Geargrip Adapter, polyisoprene material, 40 Durometer, ASTM 361.
Gaskets	
Mastic	Fed Spec SS-S-210.
Plastic	Fed Spec SS-S-00210.
Coal Tar Paint	Carboline "Bitumastic Super-Service Black," Porter "Tarmastic 103," Tnemec "450 Heavy Tnemecol," or equal.
Asphalt Varnish	Fed Spec TT-V-51.
Coatings	ASTM A 48, Class 35B or better with asphalt varnish coating applied at the foundry.
Manhole Frame and Covers	Phoenix Iron Works "P1090," Clay and Bailey "No. 2008BV," Neenah "R-1736S," or equal. Dimensions shown in Drawing S-4.
Manhole Steps	Prohibited.
Brick Manholes	Not Allowed.

The manhole cover and its seat in the frame shall be machined so that the cover will sit evenly and firmly in the frame and shall be match-marked. Manhole lids shall be stamped "Sanitary

Sewer" as shown on Drawing S-4 Standard Manhole Frame and Cover. Where the District Engineer deems necessary for heightened protection of the public or its facilities, PAMREX hinged manhole frame and locking cover, or approved equal, may be required.

If castings arrive on the job without a foundry coating, one (1) coat of coal tar paint shall be applied. Before painting, all castings shall be thoroughly cleaned and properly supported. All loose rust shall be removed by wire brushing. Castings shall not be handled until the paint is dry and hard. The coating shall not become brittle when cold or sticky when hot.

Rejection of a manhole section may be made if: (1) there are damaged or cracked ends, where such damage would prevent making a satisfactory joint; (2) any continuous crack having a surface width of 0.01 inches or more and extending for a length of twelve (12) inches or more, regardless of position in the wall; (3) fractures or cracks passing through the wall except for a single end joint that does not exceed the joint depth; or (4) surface defects indicating honeycombed or open texture.

When manholes are constructed in natural or manmade drainage courses or flood channels, the manhole covers shall be watertight and shall be fitted with a composition gasket and bolted down with eight (8) stainless steel cap screws. To further alleviate infiltration, all interior concrete surfaces including the manhole shafts shall have at least one (1) coat of primer and two (2) coats of protective coating (Amercoat 64 primer, and Amercoat 320 protective coating, or approved equal). In other undeveloped areas above the high water level, bolt-down vandal-proof manhole covers shall be used.

III-B1-3. Saddle Fittings

Saddle fittings used for connecting new lateral sewers to existing mains shall be wye branched and shall be fabricated of a material approved by the District Engineer. The wye saddle shall consist of a flange component necessary for preventing the fitting from protruding into the main.

III-B2. INSTALLATION OF SEWER PIPE AND APPURTENANCES

General requirements for installation of pipe and general construction requirements are contained in Section I-D of these Standards. The sections that follow establish the specific requirements as relating only to installation of sewer pipe and sewer appurtenances.

III-B2-1. Pipe and Fittings

Sewer pipe laying shall proceed upgrade with the spigot ends of bell and spigot pipe pointing in the direction of flow.

Sewer pipe entering and leaving manholes or other structures shall have a joint installed not less than twenty-four (24) inches but not more than four (4) feet from the manhole base.
In all cases, flexibility of joints in or at the manhole base shall be preserved to prevent damage to the pipe by differential settlement.

III-B2-2. Manholes

Standard, drop, and shallow manholes shall be constructed in accordance with Drawings S-2, S-3, and S-4, respectively. All materials for precast manhole sections shall conform to the requirements set forth in Section III-B1-2.

Manholes shall not be located in easements with steep slopes. However, when a manhole is required under special circumstances to be installed in steep slopes, standard and shallow manholes shown in Drawings S-2, S-3, and S-4 may be installed subject to the approval of the District Engineer. Use of manholes in steep slopes shall be reviewed by the District Engineer on a case-by-case basis.

Prior to work on existing manholes, a temporary false bottom shall be installed inside of the manhole.

III-B2-2.01. Assembly of Precast Sections

All wall and floor joints shall be cleaned prior to setting any manhole sections. These sections shall be set into position using a preformed plastic sealing gasket or mastic sealing gasket. If the plastic gaskets are used, they shall be in strict conformance with the manufacturer's recommendations including application of a primer coat, drying the joint, and careful use of the gasket to avoid displacement. If mastic is used, it shall be first approved by the Inspector and shall be placed to provide a tight joint.

The top cone section shall be set at such an elevation that not more eighteen (18) inches height of entrance or manhole throat is present with the manhole cover at finish grade.

III-B2-2.02. Manhole Base and Channels

Sewer lines shall first be laid as a whole pipe through manholes. After the manhole floor and walls have been set, the top half of the piping within the manhole shall be carefully cut off to within one (1) inch longitudinally of the inside wall of the precast section and the sides mortared to form a smooth channel as indicated on Drawing S-2.

Unless otherwise required by the District Engineer, the width of the opening at the top of base block shall be the inside diameter of the pipes in the manhole.

In the manholes where the pipe cannot be laid through, the pipes shall be joined by smooth curves, worked to conform with the lower halves of the pipe.

In angle point manholes and in junction manholes, the pipes shall be joined by smooth curves, warped to conform with the lower halves of the pipe. In all cases, the upper portion of the manhole channel from the midpoint of the pipes in the manhole to the top of the base block shall be constructed vertically.

The manhole channel shall be completed in the original pour, unless otherwise directed by the District Engineer.

III-B2-2.03. Adjustments to Street Grade During Construction

The Contractor shall set the transition section after the finished street elevation is known. The Developer shall coordinate the fitting of entrance sections, frames, and covers with the final paving so that the finished manhole covers blend neatly with the street surface. Successful completion of the testing of sewer line does not relieve the Contractor from making these final adjustments.

Frames and covers shall be installed on top of manholes to positively prevent all infiltration of surface or ground water into manholes. Frames shall be set in a bed of mortar with the mortar carried over the flange of the ring as shown on Drawing S-2. On sloping finish grade, frames and covers shall be installed as shown on Drawing S-6.

Manholes located in unimproved easements or undeveloped areas not subject to vehicular traffic shall be provided with wire mesh reinforced concrete encasement as shown in Drawing S-6. In addition, a marker post shall be erected not more than four (4) feet from the center of the manhole. The post shall be provided with the necessary identification marks as required by the District Engineer. Marker post shall be as shown in Drawing G-4.

III-B2-2.04. Adjustment to Street Grade After Construction

The Contractor shall be required to make any adjustments in the manhole cover sections during the one-year guarantee period if there is additional paving work. This work consists of removing and replacing the manhole frame and the grade rings. Adjustments shall be accomplished by excavating as necessary, lifting off the frame and grade rings as directed, thoroughly cleaning the frame's bottom bearing surface, coating it with asphalt paint similar to the original coating, removing the old mortar from the manhole cone and grade rings, and replacing the existing frame and grade rings to the new grade as specified for new manholes.

III-B2-2.05. Manhole Collar

All manhole collars shall be poured only after the frame has been centered over the manhole shaft. Unless otherwise specified by the District Engineer, in unpaved areas a concrete collar shall be poured around the frame and shaft so as to securely anchor the frame to the shaft. In paved areas, concrete shall be poured around the manhole frame and shaft in lieu of rock base to a point two (2) inches below the rim unless otherwise required by the City or other public agency having jurisdiction.

III-B2-2.06. Manholes with Drop Connections

When a drop connection is shown on the Improvement Plans, it shall be included as part of the manhole construction. The drop shall be made with approved fittings outside the manhole shaft. The lower pipe shall be constructed into the base block by the channeling procedures, as detailed in Section III-B2-2.02. The lower fittings shall be encased in CDF.

After the manhole shaft is in place, the upper pipe run shall be constructed through the precast wall (flush with the inner wall). The space between the pipe and the precast section shall be mortared to a watertight condition. This pipe and drop shall then be encased in concrete to the point where the upstream sewer trench is of normal width and depth. Refer to Drawing S-3.

III-B2-2.07. Pipe Stubout on Future Connections

Lateral sewer and sewer main connection stubouts shall be provided in manholes where shown on the Improvement Plans. The connection stubouts shall be placed in the manhole base and protrude one (1) foot outside the base. All stubouts shall be furnished with a watertight plug capable of withstanding all internal or external pressures without leakage. All plugs shall be adequately braced to prevent blowoffs.

III-B2-2.08. Flexible Pipe Connections to Manholes

All PVC lateral sewers and all PVC sewer mains entering manholes shall have a rubber sealing gasket, as supplied by the pipe manufacturer, firmly seated perpendicular to the pipe axis, around the pipe exterior, and cast into the structure as a water stop.

III-B2-2.09. Manhole Protection

During construction, particular care must be taken to protect the manhole from damage and to keep rock, dirt, and debris from getting into the sewer. After the sewer pipe through the manhole has been broken out and channel finished, a close fitting board cover shall be placed over channel and covered with building paper. A temporary metal plate cover, of adequate strength, close fitting, and well secured, shall be placed over the manhole opening until the frame and cover are permanently installed. Manholes in undeveloped areas, which are above finish grade as required, shall be secured with wire mesh and concrete as shown on Drawing S-6.

III-B2-3. Cleanouts

Cleanouts shall consist of a wye branch fitting of the same diameter as the side sewer and installed so the open end of the wye branch is directed to facilitate cleaning. The riser from the wye branch shall be brought to finish grade as shown in Drawing S-10.

III-B2-4. Lateral Sewers

The Contractor shall install only those lateral sewers shown on the Improvement Plans or called for in writing by the District Engineer or by the Developer with the written approval of the District Engineer. Workmanship shall be equal to that specified for the street sewers. No lateral sewer shall be covered until the Developer's Engineer has recorded its location.

The Contractor shall mark the location of all lateral sewers with the letter "S" at least two (2) inches (50 mm) high engraved into the curb at the time of curb installation. For laterals in vacant lots or where no concrete curbs exist, Contractor shall furnish and place 2" x 2" x 12" long hubs at the property line directly above the end of the pipe, with the letters "H.L." and the depth to the lateral marked on the hub with paint.

Unless otherwise shown on the Improvement Plans, lateral sewers shall be installed from the street sewer to the lot line in accordance with Drawing S-9 and plugged at the lot line in preparation for the leakage test. Laterals shall consist of factory-made standard wye branch or tee fittings with ends to suit the street sewer pipe, tilted 30 degrees upward, and plugged with factory-made removable plugs. Wyes shall face in a logical manner to facilitate future installation of house laterals to the properties to be served. The branch portion shall be firmly embedded on all sides and shall be plugged with a watertight plug until the side sewer is constructed.

III-B2-4.01. Deep Lateral Sewers

Lateral sewers shall not slope more steeply than 45 degrees. Lateral sewers sloping more than 30 degrees, but less than 45 degrees, shall be cradled in concrete. Lateral sewers sloping 30 degrees or less shall be bedded and laid to the same standards as street sewers, without need for cradling in concrete. Vertical chimneys shall not be allowed.

III-B2-4.02. Overflow Protection

Overflow protection devices shall be placed in well-drained locations near the premises being protected, with unobstructed access for observation and repair.

III-B2-4.03. Abandonment

Lateral sewers to be temporarily abandoned shall be plugged at property line or as directed by the District Engineer. Lateral sewers to be permanently abandoned shall be plugged at the sewer main.

III-B3. CONNECTIONS WITH EXISTING DISTRICT FACILITIES

General locations where new sewer mains and lateral sewers are to connect to existing sewer mains shall be shown on the Improvement Plans. It shall be the responsibility of the Contractor to determine the exact location and depth of the existing sewers prior to the installation of any sewer pipe.

III-B3-1. Connection of New Sewer Main to Existing Sewer Facilities

Connection of new sewer mains to existing lines shall be made at existing manholes or by constructing a new manhole over the point of connection or by removing an existing rodding inlet or plug.

Where the connection is to be made into an existing manhole, the Contractor shall make the connection by breaking through the manhole base, cutting a rough channel through the manhole shelf to the existing channel, installing the new pipe with a water stop if PVC sewer, finishing a new channel within the manhole, and repairing any damage to the structure. Where the connection is to be made by constructing a new manhole on an existing sewer, the manhole and new connection shall conform to details as shown in Drawing S-2. The existing sewer shall not be broken until immediately before the cleaning and flushing operation commences.

Where the connection is to be made at a removed rodding inlet or plug, an air test fitting shall be installed at the connection of new and existing pipelines installed in preparation for testing as directed by the District Engineer.

Approved mechanical expanding type temporary plugs shall be installed in each of the following cases.

1. If there is an existing manhole at the beginning of a new system, a plug shall be installed in the new pipe at the existing manhole and another plug installed on the downstream side of the first manhole upstream in the new system pipeline.
2. If the Contractor constructs a new manhole at the beginning of a new system and an existing pipe is in the new manhole, a plug shall be installed on the downstream sides of the first two (2) manholes upstream from the existing manhole.
3. If the new system begins at an existing rodding inlet or stub, a plug shall be installed on the downstream sides of the first (2) two manholes upstream from the beginning of the new system.
4. Temporary plugs shall be installed in the open ends of sewer lines while adjusting, repairing, or pouring the top blocks on rodding inlets or similar structures.

All temporary plugs shall be installed, secured, and removed in the presence of the Inspector. Temporary plugs shall remain intact until immediately prior to the beginning of the cleaning and flushing operation. Premature removal of the plug may result in the Contractor being required to clean existing downstream sewer mains. In case of neglect or refusal by the Contractor to perform such cleaning, the District shall execute the work and bill the Contractor or the Contractor's surety for costs incurred.

III-B3-2. Connection of New Lateral Sewer to Existing Sewer Facilities

Where wyes or tees were previously installed on the main sewer, the lateral sewer shall be connected to the wye or tee as provided for the particular connection. Lateral connections to existing manholes shall be as detailed on Drawing S-2 unless otherwise shown on the Improvement Plans or directed by the District Engineer.

New wye branch or tee fittings shall be installed when a connection shall be made to an existing sewer main without previously installed connection fittings. A new connection fitting shall be of the same size and type of material as the main line. The Contractor shall be responsible for all necessary bypass pumping to maintain sewer service while connecting fittings and laterals are installed. All Work shall conform to Drawing S-9.

Tapping and saddle installation shall only be used upon approval of the District Engineer for cases where disruption of existing sewer service is unavoidable. Tapping and saddles shall be tap-tite or approved equal. Tapping and saddle connections shall be made as follows:

Excavation to permit a minimum of three (3) inches of concrete under the main and six (6) inches on the sides shall be made. The exterior of the sewer main shall then be cleaned thoroughly around its entire outside circumference, and twelve (12) inches each way measured from the center of the saddle. An opening shall then be cut in the barrel of the main sewer pipe and carefully trimmed to permit a snug fit for the spigot end of the saddle. Care shall be taken that no fragments of pipe are allowed to remain in the main sewer. The saddle shall then be installed as shown on Drawing S-9. After this operation is complete and before any pipe is connected to the saddle, the Work must be inspected and approved by the Inspector. Following this approval, concrete shall be poured into the excavated area around the pipe to completely encase the main to the lip of the saddle bell.

III-B3-3. Joining Pipes of Different Materials

When pipes of different materials are joined together, the joint shall be made as directed by the District Engineer. Joining pipes of different materials between manholes shall not be permitted. The same type of pipe material shall be used between manholes.

During repair of sewer laterals and joining pipes of different materials, transition coupling shall be used.

III-B4. TESTING, CLEANING, AND TELEVISION INSPECTION

Testing, cleaning, and television inspection requirements shall be as follows. Upon successful completion of testing, access to manholes must be maintained at all times.

III-B4-1. Testing

All completed sewer mains, force mains, and lateral sewers shall be tested by and at the expense of the Contractor in the Inspector's presence prior to acceptance of Work and prior to connection to the house sewer. The conditions under which testing shall be performed shall be as follows:

1. After all proposed Work, including mains, manholes, laterals, and connections, has been completed.
2. After the installation of all other underground utilities.
3. In improved areas, after the roadway base rock has been placed and compacted.
4. In unimproved areas, after the backfill is satisfactorily compacted.
5. After access to all manholes has been provided.

III-B4-2. Air Testing

Unless otherwise required, all sewer testing shall be performed by the air testing procedure, which is described as follows:

After plugging all openings and providing thrust blocking as necessary, air shall be admitted to the section under test at an inlet pressure not exceeding five (5) psi from a source regulated by an adjustable pressure control valve and measured by a sensitive pressure gauge calibrated from zero (0) to no more than ten (10) psi. When the internal gauge pressure has reached 3.5 psi under stabilized temperature conditions, the air supply to the test section shall be cut off. The Inspector shall then observe the time interval during which the internal pressure drops 1.0 psig from at least 3.5 psig. The length of time for such loss shall not be less than that shown in the following table for the street sewer size being tested and also for the length of main line being tested.

Test plugs for any air test shall not be removed until the pressure is no longer measurable. Air shall be released slowly through a valve. If the pipe to be tested is submerged in ground water, determine the backpressure due to ground water submergence and increase all gauge pressures in the test by that amount. If a test pressure greater than eight (8) psig results, air testing shall not be used, and exfiltration testing will be required.

III-B4-2.01. Air Loss Time Tables

Tables 1 and 2 contain the specified minimum times required for a 1.0 psig pressure drop from a starting pressure of at least 3.5 psig. Table 1 shall be used for VCP and DIP sewers. Table 2 shall be used for PVC sewers.

TABLE 1. VCP AND DIP SEWER
MINIMUM TIME (MINUTES) FOR A 1.0 PSIG PRESSURE DROP FOR SIZE AND LENGTH OF SEWER

Pipe Diameter, Inches	Length of Line, ft.							
	0 to 100	101 to 150	151 to 200	201 to 250	251 to 300	301 to 350	351 to 400	401 to 500
6	1	1-1/4	1-1/2	2	2-1/4	2-1/2	2-3/4	3-1/2
8	1-3/4	2	2-1/2	3	3-3/4	4-1/4	5	6
10	2	2-3/4	3-1/2	4-1/4	4-3/4	5-1/4	6	7-1/2
12	2-1/4	3	4	4-3/4	5-1/2	6-1/4	7-1/4	9
15	3	3-3/4	4-3/4	5-1/2	6-1/4	7-1/4	8-1/2	10-1/2
18	3-3/4	4-1/2	5-1/4	6	7-1/4	8-1/2	9-1/2	12

TABLE 2. PVC SEWER
MINIMUM TIME (MINUTES-SECONDS) FOR A 1.0 PSIG PRESSURE DROP FOR SIZE AND LENGTH OF SEWER

Pipe Dia., In.	Min Time	Length for Min Time, ft.	Time for Longer Length, sec.	100	150	200	250	300	350	400	450
4	3:46	597	.380 L	3:46	3:46	3:46	3:46	3:46	3:46	3:46	3:46
6	5:40	398	.854 L	5:40	5:40	5:40	5:40	5:40	5:40	5:42	6:24
8	7:34	298	1.520 L	7:34	7:34	7:34	7:34	7:36	8:52	10:08	11:24
10	9:26	239	2.374 L	9:26	9:26	9:26	9:53	11:52	13:51	15:49	17:48
12	11:20	199	3.418 L	11:20	11:20	11:24	14:15	17:05	19:56	22:47	25:38
15	14:10	159	5.342 L	14:10	14:10	17:48	22:15	26:42	31:09	35:36	40:04
18	17:00	133	7.692 L	17:00	19:13	25:38	32:03	38:27	44:52	51:16	57:41
21	19:50	114	10.470 L	19:50	26:10	34:54	43:37	52:21	61:00	69:48	78:31
24	22:40	99	13.674 L	22:47	34:11	45:34	56:58	68:22	79:46	91:10	102:33
27	25:30	88	17.306 L	28:51	43:16	57:41	72:07	86:32	100:57	115:22	129:48
30	28:20	80	21.366 L	35:37	53:25	71:13	89:02	106:50	124:38	142:26	160:15
33	31:10	72	25.852 L	43:05	64:38	86:10	107:43	129:16	150:43	172:21	193:53
36	34:00	66	30.768 L	51:17	76:55	102:34	128:12	153:50	179:29	205:07	230:46

III-B4-3. Air Test Failure

If the air test indicates leakage greater than the specified limits, the Contractor shall locate the defects by inspection and shall make such repairs and replacements as are necessary. To locate the section of sewer that fails the air test, the various methods that may be used include remote cameras, adjustable low pressure air devices, or the filling of the line with water by plugging the inlet of the downstream manhole and maintaining at least a two (2) foot (0.6 m) depth over the outlet of the upstream manhole until the leaks are located by observing wet spots along the trench. Water shall be drained in a manner approved by the Inspector. Under no conditions shall clay, cement, or other sealer be applied inside the pipe in order to meet the test requirements. All defective portions shall be exposed and repaired or replaced, including defective bedding, to the satisfaction of the Inspector.

III-B4-4. Water Exfiltration Test

In special cases, such as for sewer force mains, a water exfiltration test may be required as described below.

Sewers shall be tested between successive manholes by plugging the lower end and the inlet of the upper manhole. The pipe and manhole shall be filled with water to a point four (4) feet (1.2 m) above the invert at the center of the upper manhole, or in the presence of ground water, four (4) feet (1.2 m) above the average adjacent ground water level. The allowable leak shall be computed as follows over a period of at least a one-hour test:

$E = 0.00002\ LD\sqrt{H}$

L = Length of line being tested including laterals in feet.
D = Internal diameter of pipe in inches.
E = Allowable leakage in gpm.
H = Elevation between upper manhole water surface and invert of pipe at lower manhole (or if ground water present, upper manhole water surface and ground water at lower manhole).

III-B4-5. Testing Deflection of PVC Sewer Pipe

The inside diameter of an installed section of PVC sewer pipe shall not be allowed to deflect more than five (5) percent. All PVC pipe main sewers shall be checked by means of a pipe deflection gauge. The pipe deflection shall be checked in the presence of the Inspector after the placement of all trench backfill and prior to surface restoration.

The pipe deflection gauge shall be fabricated to permit passage through installed sections of pipelines within the specified maximum five (5) percent deflection of the base inside diameter of the PVC pipe. Any section(s) of plastic pipe that does not permit deflection gauge passage will not be accepted and said section(s) shall be properly repaired or replaced and rechecked as directed by the District Engineer.

Rerounding through the use of a vibratory machine will not be permitted.

III-B4-6. Testing of Manholes

The test shall be conducted prior to paving.

All lift holes shall be filled with non-shrink grout.

All pipe inlets and outlets in the manhole shall be plugged sufficiently secure to hold against vacuum pressure.

The rubberized test plate shall be placed on the cone after potential leaks on the top of the cone have been sealed.

A vacuum of ten (10) inches of mercury shall be drawn and the vacuum pump shut off. With the valves closed, the time shall be measured for the vacuum to drop to nine (9) inches. Following are the minimum test times for respective manhole barrel inside diameters:

Test Times	Inside Diameter
60 seconds	48-inch
75 seconds	60-inch
90 seconds	72-inch

If a manhole fails the test, repairs shall be made with non-shrink grout. Retesting shall proceed until passing test is conducted.

III-B4-7. Cleaning

Upon satisfactory completion of the testing and after all necessary repairs and adjustments have been made including setting manhole frames to final elevations, the entire new system of sewers and manholes shall be cleaned. Before beginning the cleaning operation, a standard sand trap (Southwest Flexible Co., or equal) shall be placed in the manhole at which the new work connects to the District's system, and it will remain in place until all solid matter has been removed. Under no conditions shall material other than clear flushing water be discharged into the District's system before final acceptance of the new work. Splattered mortar and all irregularities shall be removed from the flow channels, leaving smooth dense uniform surfaces finished in a thoroughly first-class manner.

A hydraulically propelled ball shall be used to clean the entire system of new sewers. Those sections, which cannot be visually inspected by mirroring between manholes, will be cleaned only in the presence of an Inspector. Prior to the beginning of this work, excessive amounts of debris shall be removed by the Contractor.

Solid material washed into the lowest manhole(s) shall be removed from the system. The standard sand trap between the new work and the District system shall be removed only after all phases of the work have been approved after final inspection.

III-B4-8. Television Inspection

Upon completion of sewer cleaning by the Contractor, all sewer main lines shall be television inspected by the District prior to acceptance. Prior to TV inspection, the Contractor shall thread ¼-inch nylon rope from structure to structure. The cost of television inspection shall be included in the sewer inspection fees per District Code and collected in advance. If it is necessary to television inspect sewer lines more than once, additional fees shall be collected in advance.

The following observations from television inspections will be considered defects requiring correction:

1. Sag or low spot 0.125 x diameter of pipe or greater (e.g. 1 inch for 8-inch pipe)
2. Joint separations
3. Cocked joints present in straight runs or on the inside of pipe curves
4. Chips in pipe ends
5. Cracked or damaged pipe
6. Offset joints
7. Infiltration
8. Debris or other foreign objects
9. Other obvious deficiencies

ATTACHMENT G

FOG Public Outreach Materials

Fats Oil and Grease Orange-Side 2.pdf 1 10/17/2017 8:40:56 AM

One word of advice from your sewer…

DON'T

…flush wipes and feminine hygiene products down the toilet. Put them in the trash. Even so-called "flushable" products don't break down in water. *Consumer Reports* proved it—see the video at www.dsrsd.com/WhatNotToFlush.

…pour fats, oils and grease down your sinks and drains. Put small amounts in the trash. Bring larger quantities (think turkey fryer) to a hazardous waste collection center. Find locations at www.dsrsd.com/Grease.

No one wants to worry about clogged pipes or nasty sewage overflows. Follow these simple rules and you won't have to.

Aquahawk-2016-Revised2.pdf 1 12/22/2016 10:03:45 AM

How can AquaHawk help you?

- Identify a leak
- See water consumption
- Make a payment
- View past statements
- Sign up for paperless billing
- Estimate your next bill

AquaHawk ALERTING!

Dublin San Ramon Services District

Water, wastewater, recycled water

The AquaHawk Customer Portal is the fast, free, easy way to access your account.

www.dsrsd.com/AquaHawk

SIGN UP TODAY!

DSRSD Website FOG Front Page Slideshow

DSRSD Website FOG Clogs Pipes Page

- Water Conservation
- Emergencies
- Water Quality
- Draining Your Pool or Spa
- Mosquito FAQs
- What Not to Flush
  - FOG Clogs Pipes
- Who's Responsible for Pipeline Repairs?
- Odor Control Hotline
- Tour Request
- Request a Speaker
- Reserve the Boardroom - Facility Use Permit
- Classroom Programs about Water
- Science & Engineering Fairs

FOG CLOGS PIPES

Keep Fats, Oil, and Grease (FOG) Out of Your Sink

Greasy food waste is a leading cause of clogs and costly repairs in the public wastewater system, as well as in private sewer laterals, the pipes that connect homes and businesses to public sewer mains.

To avoid sewage backups, never put fat, oil, or greasy food down the sink. Cooking oil and grease, meat scraps, gravy, mayonnaise, oily salad dressings, and high-fat dairy products can all clog pipes. It doesn't help to use a garbage disposal or rinse with hot water--the grease will harden further down the line.

Wipe greasy pans and dishes with a paper towel and place the towel with food scraps in your green waste cart. The Tri-Valley's garbage companies will turn your food scraps into productive compost. For details on what you can put in your green waste cart, contact the garbage service for Dublin, San Ramon or Pleasanton.

Collect cooled liquid cooking oil (such as from a deep fryer) in a container with a tight-fitting lid. Bring the container to a collection center for recycling. Find locations at recyclewhere.org or www.baywise.org.

Motor oil is a toxic waste. Never dump it into sinks, floor drains, storm drains (which flow directly to creeks and the bay), or landfills. Check the websites above for hazardous waste collection centers near you.

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DSRSD FOG Magnet Truck Sign

DSRSD FOG TV Truck Wrap

ATTACHMENT H

Wastewater Collection System Master Plan (CSMP) Report

Insert: Wastewater Collection System Master Plan Report

ATTACHMENT I

Sewer System Management Plan Audit Guidance Documents and Reports

The intent of this Gap Analysis Audit Checklist is to evaluate the SSMP's compliance with the State Water Board Order No. 2006-0003-DWQ, Statewide Waste Discharge Requirements for Sanitary Sewer Systems (WDR) and Order No. WQ 2013-0058-EXEC, Amending Monitoring and Reporting Program (MRP) for the WDR. Additionally, the Gap Analysis uses industry reference materials, benchmarking data, and State Water Board regulatory enforcement procedures to identify areas for improvement in the SSMP itself, or the District's management or maintenance procedures. The Gap Analysis evaluates each WDR/MRP requirement on the following scale:

- **BMP Gap** – An element of collection system operation or management could be improved to Best Management Practices.
- **Management Tool Gap** – An element of the SSMP could be improved to enhance the effectiveness of the SSMP as a collection system management tool.
- **WDR Compliance Gap** - SSMP is not compliant with existing SSMP WDR.

The Gap Analysis results should be recorded in the table below. It should be noted that a "check mark" indicates that a gap exists as described in the column. An element with no "check marks" has been evaluated to be in compliance. Red text should be used to indicate action items to comply with the WDRs.

	Requirement	BMP Gap	Management Tool Gap	WDR Compliance Gap	Comments
ELEMENT 1 – GOALS					
A.	Are the goals stated in the SSMP still appropriate and accurate?				
ELEMENT 2 – ORGANIZATION					
A.	Is the list of Contact Info for Responsible Officials in SSMP Content Development current?				
B.	Is the District Organization Chart current?				
C.	Are the role and responsivities descriptions an accurate portrayal of staff responsibilities?				
D.	Does the SSMP identify the Chain of Communication for reporting SSOs, and is it accurate and up-to-date?				
E.	Does the SSMP identify staff responsible for implementing, specific measures in the SSMP?				

	Requirement	BMP Gap	Management Tool Gap	WDR Compliance Gap	Comments
ELEMENT 3 – LEGAL AUTHORITY					
Does the SSMP contain references to the current District Code documenting the District's legal authority to:					
A.	Prevent illicit discharges?				
B.	Require that sewers and connections be properly designed and constructed?				
C.	Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the District?				
D.	Limit discharges of fats, oil and grease?				
E.	Enforce any violation of its sewer ordinances?				
ELEMENT 4 – OPERATIONS AND MAINTENANCE PROGRAM					
Collection System Maps					
A.	Does the SSMP reference the current process and procedures for maintaining the District's wastewater collection system maps?				
B.	Are the District's wastewater collection system maps complete, current, and sufficiently detailed (including showing applicable storm water conveyance facilities)?				
Prioritized Preventive Maintenance					
C.	Does the SSMP describe current preventive maintenance activities and the system for prioritizing regular maintenance and cleaning of the system?				
D.	Is there a system to document scheduled and conducted activities?				
Rehabilitation and Replacement Planning					
E.	Is there an ongoing condition assessment program? Are the current components of this program documented in the SSMP?				
F.	Is there a system for prioritizing the rehabilitation and replacement program? Does the Capital Improvement Plan (CIP) include a time schedule for implementing the short- and long-term needs, plus a schedule for developing the funds needed for the CIP?				

	Requirement	BMP Gap	Management Tool Gap	WDR Compliance Gap	Comments
Training					
G.	Is the training calendar current?				
H.	Does the SSMP document current training expectations and programs?				
Major Equipment and Critical Replacement Parts Inventories					
I.	Does the SSMP list the major equipment currently used in the operation and maintenance of the collection system and document the procedures of inventory management?				
J.	Are critical replacement parts identified and sufficient to respond to emergencies?				
Outreach to Plumbers and Building Contractors					
K.	Does the SSMP document current outreach efforts to plumbers and building contractors?				
ELEMENT 5 – DESIGN AND PERFORMANCE STANDARDS					
A.	Does the SSMP contain current design and construction standards for the installation of new sanitary sewer systems, pump stations and other appurtenances and for the rehabilitation and repair of existing sanitary sewer systems?				
B.	Does the SSMP document current procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and the rehabilitation and repair of existing sewer lines?				
ELEMENT 6 – OVERFLOW EMERGENCY RESPONSE PLAN (OERP)					
A.	Does the District's OERP establish procedures for the emergency response, notification, and reporting of SSOs?				
B.	Does the SSO OERP establish procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the Revised MRP? Does the SSMP identify the officials who will receive immediate notification?				
C.	Are staff and contractor personnel appropriately trained on the procedures of the OERP?				

	Requirement	BMP Gap	Management Tool Gap	WDR Compliance Gap	Comments
D.	Does the SSO OERP include a program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to surface waters and to minimize or correct any adverse impact on the environment resulting from the SSOs?				
ELEMENT 7 – FATS, OILS, AND GREASE (FOG) CONTROL PROGRAM					
A.	Does the FOG Control Program include efforts to educate the public on the proper handling and disposal of FOG?				
B.	Does the District have a plan and schedule for disposal of FOG generated within the service area?				
C.	Does the District have sufficient legal authority to implement and enforce the FOG Control Program?				
D.	Are requirements for grease removal devices, best management practices (BMP), record keeping, and reporting established in the District's FOG Control Program?				
E.	Does the District's FOG Control Program identify sections of the collection system subject to FOG blockages, establish a cleaning schedule and address source control measures to minimize these blockages?				
F.	Is the current FOG program effective in minimizing blockages of sewer lines resulting from discharges of FOG to the system?				
ELEMENT 8 – SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN					
A.	Does the plan evaluate hydraulic deficiencies in the system, establish sufficient design criteria and recommend both short and long-term capacity enhancement and improvement projects?				
B.	Does the District's CIP establish a schedule of approximate completion dates for both short and long-term improvements and is the schedule reviewed and updated to reflect current budgetary capabilities and activity accomplishment?				

	Requirement	BMP Gap	Management Tool Gap	WDR Compliance Gap	Comments
ELEMENT 9 – MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS					
A.	Does the SSMP accurately portray the methods of maintaining and tracking relevant information that can be used to establish and prioritize appropriate SSMP activities?				
B.	Is the District able to sufficiently evaluate the effectiveness of SSMP elements and PM program based on relevant information?				
C.	Does the SSMP identify and illustrate SSO trends including frequency, location, and volume.				
ELEMENT 10 – SSMP PROGRAM AUDITS					
A.	Have SSMP Audits been completed? Audits must occur every two years and a report must be kept on file.				
ELEMENT 11 – COMMUNICATION PROGRAM					
A.	Does the District effectively communicate with the public and other agencies about the development and implementation of the SSMP and continue to address any feedback?				

An audit was performed on the Dublin San Ramon Services District's (District) 2012 Sewer System Management Plan (SSMP) using a Gap Analysis format. The intent of the Gap Analysis is to evaluate the SSMP's compliance with the State Water Board Order No. 2006-0003-DWQ, Statewide Waste Discharge Requirements for Sanitary Sewer Systems (WDR) and Order No. WQ 2013-0058-EXEC, Amending Monitoring and Reporting Program (MRP) for the WDR. Additionally, the Gap Analysis used industry reference materials, benchmarking data, and State Water Board regulatory enforcement procedures to identify areas for improvement in the SSMP itself, or the District's management or maintenance procedures. The Gap Analysis evaluated each WDR/MRP requirement on the following scale:

- **BMP Gap** – An element of collection system operation or management could be improved to Best Management Practices.
- **Management Tool Gap** – An element of the SSMP could be improved to enhance the effectiveness of the SSMP as a collection system management tool.
- **WDR Compliance Gap** - SSMP is not compliant with existing SSMP WDR.

The Gap Analysis results are presented in the table below. It should be noted that a "check mark" indicates that a gap exists as described in the column. An element with no "check marks" has been evaluated to be in compliance. Red text indicates action items to comply with the WDRs. Blue text indicates action items to achieve BMP goals or improve management tools.

Requirement		BMP Gap	Management Tool Gap	WDR Compliance Gap	Comments	Changes made to 2018 Update
ELEMENT 1 – GOALS						
A.	Are the goals stated in the SSMP still appropriate and accurate?		✓		Goals are compliant but should be revisited. *Goal 3 mentions the 2005 Wastewater Collection System Master Plan, which should be updated. Goals could include both short-term and long-term performance indicators to help track the success of the SSMP.*	Reference to Collection System Master Plan Update changed to 2018 report
ELEMENT 2 – ORGANIZATION						
A.	Is the list of Contact Info for Responsible Officials in SSMP Content Development current?			✓	*The Contact Info list needs to be updated.*	Contact Info list included as Appendix A
B.	Is the District Organization Chart current?			✓	*Organizational Chart needs to be updated.*	Organizational Chart updated with version on website as of October 2018

	Requirement	BMP Gap	Management Tool Gap	WDR Compliance Gap	Comments	Changes made to 2018 Update
C.	Are the role and responsivities descriptions an accurate portrayal of staff responsibilities?			✓	*Roles need to be updated to align with updated Organizational Chart. Responsibilities should be revisited.*	Created table for Roles and Responsibilities
D.	Does the SSMP identify the Chain of Communication for reporting SSOs, and is it accurate and up-to-date?			✓	*SSO Reporting Chain of Command flow chart does not include specific person(s) responsible or contact information.*	SSO Reporting Chain of Communication flow chart and SSO Reporting Instructions table inserted from newest OERP
E.	Does the SSMP identify staff responsible for implementing, specific measures in the SSMP?			✓	*Roles need to be updated to align with updated Organizational Chart. Responsible District Official should be revisited.*	Created table for Roles and Responsibilities
ELEMENT 3 – LEGAL AUTHORITY						
Does the SSMP contain references to the current District Code documenting the District's legal authority to:						
A.	Prevent illicit discharges?		✓		To improve ease of use, recommend consolidating District Code references into one succinct table, and provide web link to District Code.	Legal authority requirement references consolidated into one table; url link to District website added for current District Code
B.	Require that sewers and connections be properly designed and constructed?		✓		To improve ease of use, recommend consolidating District Code references into one succinct table, and provide web link to District Code.	
C.	Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the District?				No Gap Identified. DSRSD does not own service laterals.	
D.	Limit discharges of fats, oil and grease?		✓		To improve ease of use, recommend consolidating District Code references into one succinct table, and provide web link to District Code.	
E.	Enforce any violation of its sewer ordinances?		✓		To improve ease of use, recommend consolidating District Code references into one succinct table, and provide web link to District Code.	

	Requirement	BMP Gap	Management Tool Gap	WDR Compliance Gap	Comments	Changes made to 2018 Update
ELEMENT 4 – OPERATIONS AND MAINTENANCE PROGRAM						
Collection System Maps						
A.	Does the SSMP reference the current process and procedures for maintaining the District's wastewater collection system maps?	✓			No Gap Identified; the SSMP references GIS mapping/intranet and paper maps. *Could provide additional detail on frequency of updates to paper maps.*	-
B.	Are the District's wastewater collection system maps complete, current, and sufficiently detailed (including showing applicable storm water conveyance facilities)?		✓	✓	Storm water facilities are not fully mapped by their owners. Work with the Cities of San Ramon and Dublin to obtain remaining GIS storm drain information.	-
Prioritized Preventive Maintenance						
C.	Does the SSMP describe current preventive maintenance activities and the system for prioritizing regular maintenance and cleaning of the system?	✓	✓		*Add historical cleaning and inspection results to monitor on an annual basis and to support program analysis and future PM program improvement.*	Historical cleaning completion rates added for 2012-2017
D.	Is there a system to document scheduled and conducted activities?	✓			Once new performance measures are developed in 2019, there will be an opportunity to re-align the data collected with performance measures for improved/easier tracking and analysis.	-
Rehabilitation and Replacement Planning						
E.	Is there an ongoing condition assessment program? Are the current components of this program documented in the SSMP?	✓			*Consider utilizing MACP condition assessment standards for manholes to better align with pipeline/PACP inspections.*	-
F.	Is there a system for prioritizing the rehabilitation and replacement program? Does the Capital Improvement Plan (CIP) include a time schedule for implementing the short- and long-term needs, plus a schedule for developing the funds needed for the CIP?	✓		✓	*Elaborate on current funding mechanisms and schedules. Instead of condition-base priority system, consider risk-based priority system for repairs. Refine long-term rehab/replacement methodology to rely on condition data, rather than age.*	Funding details for CIP added in Element 8
Training						

	Requirement	BMP Gap	Management Tool Gap	WDR Compliance Gap	Comments	Changes made to 2018 Update
G.	Is the training calendar current?		✓		Training is discussed in the current SSMP; however, a calendar is not provided. *Develop a streamlined training schedule to track training for all Collection System staff.*	-
H.	Does the SSMP document current training expectations and programs?		✓		The SSMP currently documents that all collections workers need to be CWEA certified, however basic training is not specified. The Current SSMP refers to the Policies and Procedures for training, however, the training requirements should also be outlined in the SSMP. *Develop a streamlined training schedule to track training for all Collection System staff.*	-
Major Equipment and Critical Replacement Parts Inventories						
I.	Does the SSMP list the major equipment currently used in the operation and maintenance of the collection system and document the procedures of inventory management?			✓	The SSMP references a spreadsheet for District vehicles but does not provide detail on other major equipment or inventory. *Add a full inventory list of major equipment.*	Full inventory of major equipment added as Appendix F
J.	Are critical replacement parts identified and sufficient to respond to emergencies?			✓	The SSMP references a "mutual aid" list for equipment that can be used during emergencies and lists several individual spare/backup units stored at the WWTP or field operations site Bin #5. It is noted the District has not experienced any problems in obtaining parts during an emergency. *Add a full inventory list of critical replacement parts.*	Full inventory of critical replacement parts added as Appendix F
Outreach to Plumbers and Building Contractors						
K.	Does the SSMP document current outreach efforts to plumbers and building contractors?			✓	District is not currently distributing contractor outreach flyers.	District has produced an outreach flyer on SSO prevention and sewer lateral construction standards and will distribute these flyers from the new permit counter

	Requirement	BMP Gap	Management Tool Gap	WDR Compliance Gap	Comments	Changes made to 2018 Update
ELEMENT 5 – DESIGN AND PERFORMANCE STANDARDS						
A.	Does the SSMP contain current design and construction standards for the installation of new sanitary sewer systems, pump stations and other appurtenances and for the rehabilitation and repair of existing sanitary sewer systems?			✓	*Update reference from 2012 DSRSD Procedures, Specifications and Drawings to the updated 2014 version.*	Reference revised to 2014 version
B.	Does the SSMP document current procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and the rehabilitation and repair of existing sewer lines?			✓	*Update reference from 2012 DSRSD Procedures, Specifications and Drawings to the updated 2014 version.*	
ELEMENT 6 – OVERFLOW EMERGENCY RESPONSE PLAN (OERP)						
A.	Does the District's OERP establish procedures for the emergency response, notification, and reporting of SSOs?		✓	✓	*Remove references to 2006 and 2013 OERP, and include 2017 version. Sections could be arranged according to importance for ease of reference (i.e. Reporting/Notification information should come before equipment SOPs)*	OERP updated March 2017; new document included as Appendix H
B.	Does the SSO OERP establish procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the Revised MRP? Does the SSMP identify the officials who will receive immediate notification?		✓	✓	*Remove references to 2006 and 2013 OERP, and include 2017 version. Update contact information as an appendix sheet that can be easily replaced in 3-ring binders.*	OERP updated March 2017; new document included as Appendix H
C.	Are staff and contractor personnel appropriately trained on the procedures of the OERP?				No Gap Identified; the SSMP documents training for appropriate staff twice per year.	-

	Requirement	BMP Gap	Management Tool Gap	WDR Compliance Gap	Comments	Changes made to 2018 Update
D.	Does the SSO OERP include a program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to surface waters and to minimize or correct any adverse impact on the environment resulting from the SSOs?				Requirements are met by 2017 OERP, which needs to be included in the SSMP.	OERP updated March 2017; new document included as Appendix H
ELEMENT 7 – FATS, OILS, AND GREASE (FOG) CONTROL PROGRAM						
A.	Does the FOG Control Program include efforts to educate the public on the proper handling and disposal of FOG?				No Gap Identified; the District has a well-developed public education/ outreach program.	-
B.	Does the District have a plan and schedule for disposal of FOG generated within the service area?		✓		No Gap Identified; the SSMP identifies local FOG disposal locations. *The SSMP mentions a potential FOG receiving station at the WWTP scheduled for 2016. Provide update on FOG receiving station.*	Added information regarding FOG receiving station to be complete in 2019
C.	Does the District have sufficient legal authority to implement and enforce the FOG Control Program?				No Gap Identified.	-
D.	Are requirements for grease removal devices, best management practices (BMP), record keeping, and reporting established in the District's FOG Control Program?	✓			Requirements met; record keeping and reporting done by District environmental compliance staff. *Suggest including additional detail on record keeping and FOG program compliance results*.	-
E.	Does the District's FOG Control Program identify sections of the collection system subject to FOG blockages, establish a cleaning schedule and address source control measures to minimize these blockages?				No Gap Identified; the SSMP discusses the "trouble-spot" cleaning program that contains FOG hotspots. A commercial source control program covers approximately 175 facilities. FOG-related SSOs have been historically limited to 1-2 per year.	-
F.	Is the current FOG program effective in minimizing blockages of sewer lines resulting from discharges of FOG to the system?				No Gap Identified; low FOG-related SSOs are attributed to the effective grease trap and FOG programs.	-

	Requirement	BMP Gap	Management Tool Gap	WDR Compliance Gap	Comments	Changes made to 2018 Update
ELEMENT 8 – SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN						
A.	Does the plan evaluate hydraulic deficiencies in the system, establish sufficient design criteria and recommend both short and long-term capacity enhancement and improvement projects?	✓		✓	*Update this section with results of the 2018 master plan update. Description of design criteria is lacking and a general discussion on what constitutes a capacity deficient pipeline should be included.*	The 2018 CSMP Update was added as Appendix J. The CSMP Update includes all required information.
B.	Does the District's CIP establish a schedule of approximate completion dates for both short and long-term improvements and is the schedule reviewed and updated to reflect current budgetary capabilities and activity accomplishment?				*Update the SSMP to include the current CIP as an Appendix that can easily be removed and updated.* SSMP includes general discussion on short and long-term improvement scheduling and funding. CIP budgets are prepared every two years.	-
ELEMENT 9 – MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS						
A.	Does the SSMP accurately portray the methods of maintaining and tracking relevant information that can be used to establish and prioritize appropriate SSMP activities?	✓			*Improve performance indicators and align data tracked with new performance indicators. Highly recommend implementing monthly reporting of progress to management, and annual reporting to the Board.*	-
B.	Is the District able to sufficiently evaluate the effectiveness of SSMP elements and PM program based on relevant information?	✓	✓		*SSMP describes that the District is working to establish Key Performance Indicators (KPIs) to measure the effectiveness of the SSMP. This should be revisited and updated.*	-
C.	Does the SSMP identify and illustrate SSO trends including frequency, location, and volume.			✓	*SSO trends are discussed anecdotally throughout the report. Include historical SSO trends.*	Historical SSO trends by cause and SSOs by volume were added for 2008-2017
ELEMENT 10 – SSMP PROGRAM AUDITS						
A.	Have SSMP Audits been completed? Audits must occur every two years and a report must be kept on file.		✓	✓	*Last audit included in SSMP was completed in 2013. Include 2018 Audit and update audit template with this one, which identifies BMP and management tool improvements – not just yes/no compliance questions.*	2013 and 2018 audits included in SSMP Update

	Requirement	BMP Gap	Management Tool Gap	WDR Compliance Gap	Comments	Changes made to 2018 Update
ELEMENT 11 – COMMUNICATION PROGRAM						
A.	Does the District effectively communicate with the public and other agencies about the development and implementation of the SSMP and continue to address any feedback?	✓			The SSMP is posted on the website and is open for review at the time of updates. *Recommend using the SSMP as a communication tool by presenting annual reports and SSMP audits and updates to the Board.*	-

ATTACHMENT J

Sewer System Management Plan Change Log

Attachment J. Log of SSMP Changes

Date	SSMP Element	Description of Change/Revision Made	Person Authorizing Change
Oct-2018	All	Reformatted document to align with 2013 MRP Elements. Added excerpt from SWRCB Waste Discharge Requirement before each Element.	Operations Manager
Oct-2018	Introduction	Updated sanitary sewer system description, including: pipe lengths by size and material, lift station, and forcemain descriptions	Operations Manager
Oct-2018	1 – Goals	Updated reference to 2005 Collection System Master Plan Update.	Operations Manager
Oct-2018	2 – Organization	Updated Organizational Chart	Operations Manager
Oct-2018	2 – Organization	Updated SSO Reporting Chain of Communication based on updated OERP document	Water/Wastewater Systems Operations and Maintenance Supervisor
Oct-2018	3 – Legal Authority	Legal authority code references consolidated into one table. District website link added to District Code.	General Manager
Oct-2018	3 – Legal Authority	Added section on Tri-Valley Intergovernmental Agreement; Agreement included as Attachment C.	General Manager
Oct-2018	4 – Operations and Maintenance Program	Added historical operations and maintenance activities including: hydrocleaning, troublespot cleaning, root treatment cleaning, and CCTV inspection (for years 2012 to 2017)	Operations Manager
Oct-2018	4 – Operations and Maintenance Program	Added breakdown of Preventative vs. Corrective Maintenance (based on work orders and number of hours)	Operations Manager
Oct-2018	4 – Operations and Maintenance Program	Training section updated with specific formal training topics and information on training required of contractors performing District collection system O&M	Operations Manager
Oct-2018	4 – Operations and Maintenance Program	Outreach to local contractors section updated; added Contractor Outreach Flyer as Attachment E	Engineering Services Manager
Oct-2018	6 – OERP	Updated based on updated OERP document (March 2017)	Operations Manager

Attachment J. Log of SSMP Changes

Date	SSMP Element	Description of Change/Revision Made	Person Authorizing Change
Oct-2018	8 – System Evaluation and Capacity Assurance Plan	Updated based on 2017Wastewater Collection System Master Plan (CSMP); Placeholder for CSMP included as Attachment H.	Engineering Services Manager
Oct-2018	9 – Monitoring, Measurement, and Program Modifications	Added historical SSO data including failure by cause and SSO volumes (2008-2017)	Operations Manager
Oct-2018	Section 10 – SSMP Program Audits	Updated audit frequency from annual to semi-annual; removed terminology about submitting audit reports to the RWQCB; referenced recent (October 2018) audit on the 2012 SSMP.	Operations Manager
Oct-2018	Attachment A – Contact Information for Responsible Officials in SSMP Content Development	Updated	Operations Manager
Oct-2018	Attachment B – OERP & Dublin Lift Station Emergency Information	OERP Updated with March 2017 version; added Procedure for Reporting Spills document; added Dublin Lift Station emergency information	Operations Manager
Oct-2018	Attachment C – Tri-Valley Intergovernmental Agreement	Added as new Attachment	General Manager
Oct-2018	Attachment D – Sewer System Major Equipment Inventory; Critical Sewer Replacement Parts Inventory; and Contact Information for Vendors and Contractors.	Added as new Attachment	Operations Manager
Oct-2018	Attachment E – Contractor Outreach Flyer	Added as new Attachment	Operations Manager
Oct-2018	Attachment F – Standard Procedures, Specifications and Drawings for Wastewater Utilities	Added as new Attachment	Engineering Services Manager
Oct-2018	Attachment G – FOG Public Outreach Materials	Added FOG Outreach documents	Sr. Civil Engineer - Environmental Compliance

Attachment J. Log of SSMP Changes

Date	SSMP Element	Description of Change/Revision Made	Person Authorizing Change
Oct-2018	Attachment H – Wastewater Collection System Master Plan Report	Added as new Attachment (to be inserted when finalized).	Engineering Services Manager
Oct-2018	Attachment I – SSMP Audit Guidance Documents and Reports	Updated; included Audit Report from October 2018	Operations Manager
Oct-2018	Attachment J – SSMP Change Log	Added as new Attachment	Operations Manager
Oct-2018	Attachment K – SSMP Board Adoption Documents	Added as new Attachment	General Manager

ATTACHMENT K

Sewer System Management Plan Board Adoption Documents

Insert: Sewer System Management Plan Board Adoption Documents